

A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS.

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THE ERIE ELEVATOR, BUFFALO, N. Y.

The view herewith presented to our readers represents one of the largest grain elevators in the city of Buffalo, N. Y., which city, next to Chicago, contains a larger number of this class of buildings than any other city. The grain business of Buffalo consists mainly in receiving grain from all descriptions of boats, both steam and sailing craft, and transferring the grain to cars bound for the seaboard. It is only in times of scarcity of cars that much necessity exists for providing storage capacity for grain, and therefore, although the number of elevators in Buffalo is nearly if not quite as large as in Chicago, the storage capacity of the latter city is largely in excess of the former. Therefore, in the city of Buffalo particular attention is given in the construction of elevators, to machinery and appliances for the convenient and more particularly the speedy transfer of grain from boats to cars.

The grain elevator represented in our engraving represents the Erie Elevator, lately erected by the New York, Lake Erie & Western R. R. Co. to replace one upon the same site which was destroyed by fire in August, 1882. The new structure was begun on the 25th of October, 1882, and completed July 25, 1883. The entire construction was carried on under the personal supervision and according to designs furnished by Messrs. J. F. Moulton & Son, grain elevator architects, contractors and builders, of Chicago, Ill. These gentlemen brought to the work the results of a large and varied experience in this class of work, extending over a period of twenty-five years, and the length and breadth of the country, evidences of their skill in this direction being found in nearly every large city of the country.

The main elevator building is 231 feet long by 72 feet wide, rising to a height of 92 feet to the eaves of the

lower roof, above which the cupola towers to a further height of 46 feet. This building is located about 150 feet back from the edge of the dock, necessitated by the previous location of other buildings owned by the company, and the requirements of proper railroad track facilities. It is connected by galleries with the receiving tower 40 feet square and 143 feet high, in which is placed the machinery and appliances for unloading ves-

veyor, thirty-six inches wide, capable of transferring grain from the main building for shipment to vessels or canal boats at the rate of 10,000 bushels per hour.

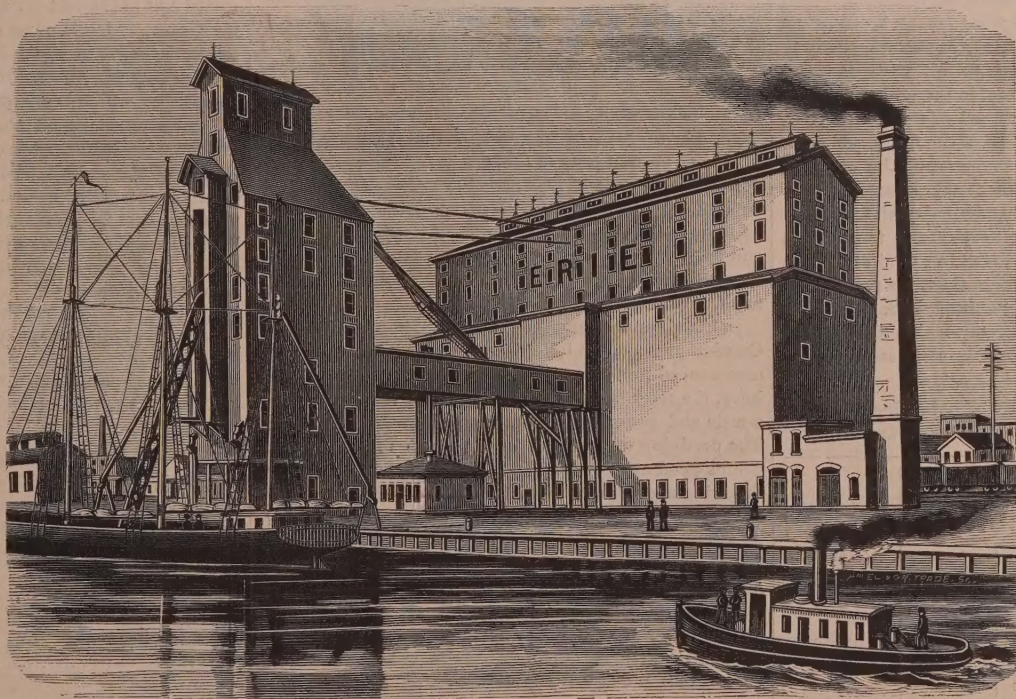
Adjoining the main building at one end is the engine and boiler house, which is a brick structure, containing engine, boilers, pumps, etc., constituting the driving power for the whole plant. In the main building there are eleven elevator legs, seven of which are for the purpose of receiving grain from

cars and for transfer purposes, each of which is capable of elevating 7,500 bushels per hour. The other four are built in connection with four cleaners, and are used for the elevation and re-elevation of grain which is to be cleaned, which can be done at the rate of 7,500 bushels per hour. For the storage of grain there are in the main building 153 bins, each 60 feet deep, and averaging 11 feet 6 inches by 10 feet 6 inches superficially, giving a total storage capacity of 720,000 bushels. About 4,000,000 feet of lumber were used in the superstructure.

All the superstructure is supported on heavy masonry walls and piers, which are in turn supported by oak piling driven to bed rock, capped and cross capped, with oak timber. The tower, galleries and main building up to the line of the lower roof are covered with cor-

rugated iron, supplied by Moser & Thompson of Cleveland, Ohio. The cupola and roof are covered with tin, with iron cornices.

All of the machinery in both main building and receiving tower was furnished by the Howard Iron Works of Buffalo, and is operated by one low pressure, direct-acting engine, with 42x42 cylinder. This engine, with two boilers, each 16 feet long and 6 feet in diameter, was furnished by the Pusey & Jones Company of Wilmington, Del., for the elevator that was destroyed by fire. They being inclosed in a brick building, suffered but slight damage. They were overhauled and thoroughly rebuilt by the King Iron Works of Buffalo.



THE ERIE ELEVATOR, BUFFALO, N. Y.

sel. Grain is elevated at an average rate of 7,500 bushels per hour by means of an adjustable iron elevator leg, ninety feet long, weighing nine tons, which discharges the grain into a receiving bin, whence it is drawn into a hopper scale and weighed, passing thence into a loftier elevator, which elevates the grain to sufficient altitude for spouting through a long connecting spout, heavily ironed, into the main building, to the foot of either or all of three other elevator legs, which re-elevate the grain and discharge the same, either into the various bins for storage or through patent flexible shipping spouts directly into cars. The connecting galleries between the two buildings each inclose a belt con-

A FLOUR MILL ELEVATOR.

The November issue of the *American Miller* contained an illustrated description of the "President" Mills and Elevator at Bethalto, Ill., recently built and owned by Mr. John W. Kauffman, proprietor of the "Park Mills," at St. Louis, Mo. The elevator, built on the east side of the mill and separated from it by a clear space of 20 feet having its ends on a line with the former, is 40x92 feet, and 63 feet in height from the basement walls, or 51 feet from the top of the first story to the eaves. The building is surmounted by a cupola 12 feet high and 20 feet wide, running its whole length. At the south end the cupola is built 6 feet higher to admit the head of the receiving elevator. The basement, built upon a solid foundation, is 11 feet, and the first story is 12 feet high.

The main building is built in lamina fashion of timbers nailed up respectively 2x8, 2x6, and 2x4 inches. The partitions, built up in the same way, furnish 21 independent wheat-bins, bound by tie-rods so that the pressure of the wheat will not affect the partitions. Along the middle of the tops of bins a gangway is provided, well guarded on both sides by parapets. A space, about 20 feet square, is set off in the northwest corner for stairway and wheat cleaning machines; and the mill office, 20x12 feet, is located in the southwest corner. The roof, a flat double pitch, is to be clad with corrugated iron as soon as the walls have sufficiently settled to assure permanency. The mill and elevator are connected by two roofed trusses on top of the bins, near each end of the building. The conveyors, carrying bran and shorts from the mill, pass through the one at the south end; while the other has two conveyors, carrying the cleaned wheat and screenings to mill.

In the northwest corner of the elevator three floors are laid at suitable height; thus making four stories above the first floor and basement, while the cupola or attic is still above these. The basement contains the end of the elongated engine shaft coming underground from the mill. A shaft in the fourth story is driven by a 14-inch doublebelt. An iron frame horizontal tightener, on first floor, serves for stopping and starting the elevator machinery. By these means two large Richmond Separators are driven on the fourth and fifth stories, a Richmond Screening Separator on the fifth story, three large dust-catchers with fans on second, third and fourth stories; conveyors for cleaned wheat and screenings, and also an upright shaft which transmits motion to a Richmond Brush Machine on the second floor; a smutter on the third floor, and the elevators and conveyers in the cupola. There is a bran and shorts packer on the first floor, on the west side, and large exhausting fans in the basement to draw off the smut dust from the office and first floor.

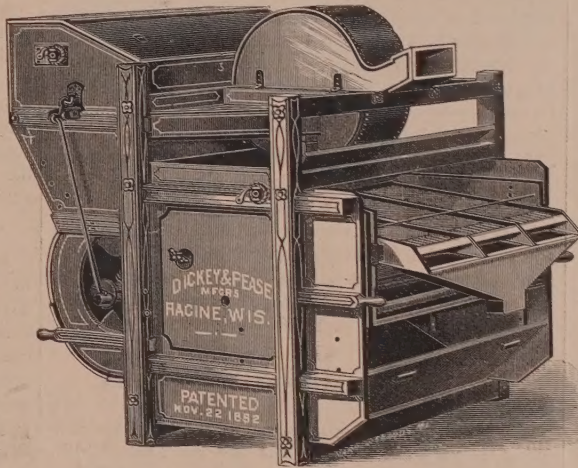
On the south front of the mill building, separated by a switch-track, a warehouse is located, 120x62 feet, one story high, with stone basement and flat tar-gravel roof, whose sides correspond with those of the mill. The main track of the Indianapolis & St. Louis Railroad passes on the south side of the storehouse. Farmers discharge their wheat on the north side of the elevator. A track-scale stands in front of the office, and the receiving elevator, having a 12-inch belt and 11-inch cups raises the wheat at the rate of 4,000 bushels per hour. The wheat from wagons is conveyed from the basement by another receiving elevator, and the same conveyor is used to re-elevate the wheat to prevent heating. Another iron conveyor, of large capacity, is placed below the discharge of the receiving elevators, running through the whole length of the building. Spouts with slides, handled from first story, are used for filling the bins. At the south end of the building, on each side of the receiving elevator, a large bin is reserved for storing respectively finished bran and shorts, from which they can be easily spouted into cars. The wheat bins have a capacity of 92,000 bushels, and the bran and shorts bins each of about 72 tons. The elevator, together with the mill, was designed and constructed by Messrs. Edw. P. Allis & Co., of Milwaukee, who also furnished the machinery.

T. R. Jackson, a private banker at Blenheim, engaged in a wheat dicker on the Detroit Board of Trade through A. G. Ellair & Co., recently, and before he had scarcely got warm among the bulls and bears he was called on for \$1,000 to make up a shortage. He refused to pay it, and Ellair has begun suit against him for the amount through White & Ellis of Windsor.—*Chatham Planet*, Oct. 25.

THE "ACME" DUSTLESS GRAIN SEPARATOR.

Grain dealers, millers, and all others handling grain appreciate the value to them, or rather the necessity, of a good grain separator. The number of machines designed for separating purposes can be reckoned by dozens, some with positive merits and some with equally positive demerits. We illustrate on this page the "Acme" Dustless Separator, which is offered to the grain handling public by MESSRS. DICKEY & PEASE, of Racine, Wis., who have obtained an almost world-wide reputation as the manufacturers of the A. P. Dickey Fanning Mills. They offer it to the public, confident that its merits will be its own commendation. The machine is the outgrowth of their acquaintance with the needs of the grain-handling public, gleaned from their years of experience in this line of business.

The height of the Acme is 5 feet 7 inches to the top of receiving hopper, which is its highest part; the length is 5 feet 9 inches, and the width, including the pulleys, 6 feet 2 inches. The machine is complete in itself, requiring no other machine to do a portion of the work which a dustless separator should do. The Separator proper is constructed on the same principle as the "End-Shake" Fanning Mill made by this same firm. The suction fan has a double suction, that is, from both



THE "ACME" DUSTLESS GRAIN SEPARATOR.

sides, a new feature which is patented. As the grain passes into the machine, the suction takes out the dust and light chaff. The grain thus freed goes onto the machine, separating the oats from the wheat or barley and screening the grain, all in one operation. The dust is removed by a spout to a bin or out of the building as may be desired. The sticks, straws, etc., pass off the tail of the hurdle, the oats coming out through the hurdle spout. The grain thus cleaned passes out of the machine under the main drum, almost directly under the receiving hopper where it entered.

The machine is claimed to be perfectly dustless, and does not require the use of a separate fanning mill, as some separators do, to remove the oats. The "Acme" has large capacity, depending, of course, on the condition of the grain, and ranging from 400 to 600 bushels per hour. The machine is well built and the price is very reasonable. Messrs. Dickey & Pease will gladly furnish applicants any information in regard to prices, etc., that may be required.

WHEAT PRICES AT DULUTH AND MINNEAPOLIS.

In the conflict of interests between Duluth and Minneapolis as wheat markets, the facts stated by interested parties, bearing upon their comparative merits, require careful analysis. Mr. C. A. Nimocks, who owns a farm near Donnelly, Minn., and who is also the business manager of the *Minneapolis Journal*, published recently in the latter paper a statement as follows: He had instructed his foreman to ship one carload of wheat to one of the prominent commission houses at Duluth, and another to the Minneapolis Millers' Association. The result was that the latter load was graded No. 1 hard, while the Duluth inspector graded the other car as No. 2, making a difference of 18½ cents per bushel in favor of Minneapolis, upon which fact he bases the general claim, that this is an index of the comparative value of the two markets. A writer in the interests of Duluth, in

reply, states that the facts upon which this different grading was based are not stated, nor the name of the Duluth merchant, only this: "The inspection ticket at Duluth stated that the wheat had smut in it." It needs no argument to show that such an imperfect statement is worthless as proof of the claim. In the case of Mr. Nimocks, if his car held 500 bushels, his failure to send it to the Association cost him a loss of \$26.50, a loss that few shippers are generous enough to endure, and on being known—and such things cannot be well concealed—would utterly ruin the trade of the market concerned. But, as a startlingly conflicting fact, the writer states that wheat dealers are now shipping to Duluth from 50,000 to 200,000 bushels of wheat per day. Has capital, he asks, become so lacking in sagacity as to do this at a loss of eighteen cents per bushel? From the *Pioneer Press* the writer also quotes the following note, sent from Rock City: "Wheat is coming in slowly as farmers do not like the price paid by Minneapolis millers, which is 85 cents for No. 1."

ONTARIO CROPS.

The November report of the Bureau of Industries gives a revised statement as to the present grain crops of Ontario, Canada, based upon returns made by threshers as follows: The injury done the fall wheat by rust is much greater than was supposed and the crop estimate therefore much less than in August. The western portion of the province, where the larger bulk of fall wheat is raised, suffered severely from the winter weather; the grain was blighted with rust in the ripening stage, and the average yield is low, and the quality poor. In the eastern part the wintering was better, as well as the yield, but the rust was only less severe. Spring wheat is generally reported as excellent in quality and yield. The rust and the midge affected it in these counties, and the September frosts in all the northern counties. But for these backsets the crop would have been one of the largest and best the country has produced. The total wheat breadth this year was about 1,680,000 acres, against 1,780,000 last year, and the product about 21,330,000, against 41,000,000 bushels last year. The average yield of fall wheat this year is 10.45, and of spring wheat 16.75 against 20.3 and 16.5 bushels per acre respectively last year.

The season was too wet to mature a good marketable crop of barley, and though plump, the berries are discolored. The area under crop this year was about 758,000 acres, producing 18,700,000 bushels, averaging 24.67 bushels per acre; these figures were respectively last year 849,000 acres, 24,300,000 bushels, and an average yield of 28.6 per acre. The oat crop was large and excellent in quality especially in the western half of the province, where it is stated that it exceeds the standard weight from four to six pounds per bushel. An inappreciable loss occurred in the northern section from early frosts. The total oat acreage was about 1,424,000, producing 55,490,000 bushels, or an average of 38.9 per acre, while last year 1,375,000 acres produced about 50,100,000 bushels, or an average of 36.4 bushels per acre. Rye has been in all respects a fair crop. The area sown this year was 188,438 acres, and the yield 3,000,000, or an average of 15.9 bushels per acre. The area last year was about 189,000 acres and the yield about 5,550,000 bushels, or an average of 18.8 bushels per acre. Corn and buckwheat were so generally destroyed by September frosts as to render estimates of produce impossible.

The official return relative to the French crop estimates the yield at 100,646,216 hectolitres. The area sown is 6,278,624 hectares. The average yield per hectare is estimated at 1,498 hectolitres. The average weight per hectolitre is 7,623 kilograms. A hectare is equivalent to two acres and 471 one-thousandths of an acre. A hectolitre is equivalent to two and five-sixths of our bushels. This would give us the area of wheat in France as 15,514,480 acres, and a yield of 285,164,278 bushels, an average of 18.38 bushels per acre. We do not know how this compares with the usual yield, but it is less than we supposed the average of that well cultivated country to be. The average yield per acre in England for a long series of years has been twenty-nine bushels per acre. But France is yet considerably ahead of the United States in this respect.

General Items.

Chicago elevators have over 1,000,000 bushels of rye stored away in their bins.

General Baker, Railroad Commissioner of Minnesota, is pressing the matter of the adjustment of wheat freights and elevator troubles on the Northern Pacific R. R.

An English wheat buyer, now in Odessa, has written to a friend in St. Louis that Russian wheat can be laid down in French ports seven cents per bushel more cheaply than the best terms yet offered by shippers from New York or Baltimore.

The bureau of statistics states that the imports of grain into Germany from the beginning of January to the end of September showed a decrease compared with the same period in 1882, while the exports showed a marked increase, especially in wheat and oats, the quantity of both being nearly doubled.

The following are the prices paid for wheat at the various points in Manitoba: Morris, 77; Portage la Prairie, 76; Manitoba City, 74; Greta, 77; Morden, 75; Niverville, 79; Emerson, 72; Stonewall, 79; Carberry, 73; Chater, 72; Brandon, 72. Ogilvie & Co., however, predict an early drop in the market. It is thought that in a few days 75 cents will be the price paid in the majority of places.

Mr. Clifford Richardson, of the Washington Department of Agriculture, finds that the principal failing in United States wheats is their deficiency in albuminoids. The highest percentage of albuminoids in the best American grown wheat has been found to be 17.15. In June last the Canadian Pacific Railway authorities submitted sixty-five samples of Northwest wheat to Professor Glerb of Amsterdam for analysis. The professor found that in forty-eight samples the percentage of albuminoids was 28.34, and that in the seventeen remaining samples the percentage was 27.61. This speaks well for Canadian wheat.

Referring to the complaints of the farmers in that region, that they do not get their wheat properly graded at the stations, the Redwood, Minn., *Gazette* says: "There is no disputing the position that a farmer should get a No. 1 hard price for hard wheat here just as much as though he sold it in Dakota or Manitoba. There is manifest fraud and injustice in millers of the clamoring for our farmers to sow hard wheat, and when they bring it to market only pay the price of soft wheat for it. The result of this policy, if continued, will be to drive the hard wheat out of use in this latitude, a calamity which dealers should avoid by encouraging the growing of hard wheat here as well as further north. Under existing usage our local roller mills will be put to it in order to get hard wheat for their necessary use, if, as it is claimed, soft wheat is safe for yielding several bushels per acre in excess of the hard kinds, and the producer continues to get the same price for both."

Some weeks ago the *Mark Lane Express* desired some one to give a plain explanation of the terms "puts" and "calls" as used on the Chicago Board of Trade. I do not know that any one has yet complied with the request. Perhaps an English traveler in this country has furnished as pat an explanation of the terms as our contemporary may wish. The gentleman referred to came to Chicago, of course, and of course he visited the Board of Trade. He asked the same question of members that the *Mark Lane* asked. The explanation was made, but was not well understood. He took advice and concluded to invest a little himself, and by actual transactions learn all about it. He did so. He tried both a "put" and a "call," and lost his money in each transaction. On returning home he said to his friends that he had mastered the intricacies of the American trade. What are "puts" and "calls" asked a friend. "Oh, you 'put' your money in a broker's hands and he 'calls' you a d—d fool the moment your back is turned." This seems to about cover the ground.

Mr. Gisborne, Dominion Government Superintendent of the Telegraph and Signal Service, has recently been making a tour of the Northwest in connection with the telegraph service. In an account of his trip, given by a Winnipeg paper, we find the following statement, which seems almost incredible: "Mr. Gisborne says that when at St. Albert, Rev. Father Ledue, principal of the Roman Catholic school, informed him that club wheathad yielded fifty bushels to the acre in that section. The reverend father also informed him that eight bushels of

white Fyfe wheat sown upon four acres of ground had just been threshed and had yielded the enormous quantity of three hundred and sixty bushels of first-class grain. This is equal to ninety bushels to the acre. Mr. Gisborne says that but for the undoubted authority of the well-known clergyman he should have hesitated to accept such a wondrous statement of the unqualified fertility of our soil in the far West. The superintendent says that all the settlers appear to be contented and fairly prosperous, and curiously enough every man is under the impression that he is on the very best spot in the whole country."

Communicated.

A NEW OHIO ELEVATOR.

Editor American Elevator and Grain Trade:—It might be interesting to our friends, and to the trade generally, to know that we have bought the site of the old Columbus Elevator at Columbus, Ohio, which was totally destroyed by fire on Sept. 7, while we were occupying it as lessees. We are now constructing one of the best elevators in the state for an inland town, with a capacity of from 75,000 to 100,000 bushels, thoroughly equipped throughout with all the latest improved machinery for shelling corn, cleaning grain, grinding feed, etc., also with modern appliances for taking grain from boats, that run directly into the house by means of a basin connecting with the Ohio Canal. We have track connections with the C. H. V. & T. Railroad, which switch us to the Union Depot yards. We are using the Western line of cleaners, etc., and a large lot of chain belting. We are putting in a 40-foot Howe Track Scale, a 22-foot platform wagon, and several hopper scales for canal receipts.

As to the crop here: Wheat was very light, both as to quality and quantity. Corn in our immediate vicinity is a heavy crop, but in the adjoining counties, and the eastern and northern parts of this, the crop is very light. We appreciate your paper highly; it is very valuable to us in our trade.

Yours truly,
Columbus, Ohio.

McCord & Decker.

A BUSY ELEVATOR BUILDING FIRM.

Editor American Elevator and Grain Trade:—We had intended to send you some news from this part of the country, but our time has been so limited from press of business up to this time that we have been unable to do so. Indeed, it looks as if there would be no let up at all. We have built twenty new elevators, repaired and placed additional machinery in ten others. All the houses we have built are run by steam power except one. We have furnished 3,000 elevator cups, 4,000 feet of rubber belting, forty-six iron elevator boots and the same number of iron turn spouts, and between 300 and 400 pulleys. We have inquiries for Seeley Elevators from Texas, Georgia, Missouri, Kansas, Pennsylvania, New York, Canada, Michigan, Wisconsin, Minnesota and Dakota. Our trade could be extended almost indefinitely if we could get skilled men to take charge of them. These we are getting as rapidly as possible. Think we will have to stop advertising with the AMERICAN ELEVATOR AND GRAIN TRADE, it brings us so much business. However, we intend to go ahead and cover all the ground we can, but not more than will allow us to do justice to ourselves. We have never yet taken a grain man through one of our elevators but what he said it was the most complete he had seen.

Yours truly,
Fremont, Neb.

SEELEY, SON & CO.

HOW TOWNS LOSE THEIR GRAIN TRADE.

The *Fres Trader*, of Ottawa, Ill., replies to the question, "What is becoming of the grain trade of Ottawa?" by a statement of facts that have a general bearing on the causes of the fluctuations in the value of local grain markets. Ottawa, being near to Chicago, until recently was able to control the market by her prices for grain, as against Seneca and adjacent points. But of late the latter place pays more for grain, because, by means of the Kankakee and Seneca cut-off she is brought as near in transportation cost to the Cincinnati market as Ottawa is to Chicago, and the former pays a higher price for grain. Taking the monthly average prices paid at the two points during 1882, it appears that the general average price of grain for the year at Cincinnati was 71 cents per bushel, against about 64½ cents at Chicago. These few cents per bushel additional price is a sufficient in-

ducement to the farmer in his choice of markets. It is this old tussle of railway vs. canal that has caused this loss of control of the corn market for Ottawa, and not the alleged combinations at Ottawa to keep prices down. Grand Ridge also complains that her once fine grain trade is departing, and with it a good deal of business. This latter place formerly had special favors in freight rates, but now the road competition at Streator, Ottawa, and Seneca enables their shippers to get better rates, and in consequence, to offer better prices for grain. These are the real causes in all cases where the local centers of the grain traffic are changed, to the interest of some and the detriment of others.

Legal Notes.

Lien on Cargo.

In order that a shipowner may retain a lien on the cargo for freight, it should not be delivered to the consignee. This rule is not absolute, but in the case of an understanding between the parties that the lien may remain, the cargo may be delivered.—*Wilcox, United States Circuit Court, Northern District of Illinois—in Admiralty.*

Delivery of Property.

A delivery of goods by a vender to a common carrier is a delivery to the vendee, though such carrier was not designated by him. And under the provisions of a statute of frauds that no evidence of any contract for the sale of personal property is competent when none of the property is delivered, and no part of the price is paid, such a delivery is sufficient to take the contract out of the statute.—*Bullock & Co. vs. Stcherge & Swind, United States Circuit Court, District of Iowa.*

Agency to Buy Wheat.

An agent to buy wheat or other grain, must, in order to bind his principal, who furnishes in advance the funds to make the purchases, buy for cash, unless he has express power to buy upon credit. And in the absence of express authority, or proof of the custom of the trade, to buy on credit, such agent can not bind his principal by a purchase upon credit of a person who is ignorant of his real authority as between himself and his principal.—*Kamarowski vs. Krundick, Supreme Court of Wisconsin.*

Insurable Interest

Where wheat is deposited in a warehouse belonging to commission merchants transacting business in the usual way, to be treated as property of the merchants, wheat of a like quality to be returned and not the identical wheat, even though the wheat be deposited subject to a condition, "Fire at owner's risk," the commission merchants have an insurable interest for the value of the wheat.—*Baxter vs. Hartford Fire Insurance Company, United States Circuit Court at Indianapolis.*

Freight Rates—Discrimination.

A railroad, though owned by a corporation, is nevertheless constructed for public uses, and in a qualified sense is a public highway. Hence everybody constituting a part of the public, for whose benefit it was built, is entitled to an equal and impartial participation in the use of the facilities it is capable of affording. Its first and primary obligation is to the public and the company has no right to make unreasonable and unjust discriminations. A discrimination in rates of freight between the same points, resting solely upon the basis of the amount of freight supplied by the respective shippers, is unreasonable and unjust.

Common Carrier.

A merchant in Baltimore sued a railway company for damages for failing to carry and deliver freight to him which was necessary to his business; and claimed that he should be allowed, in addition to the actual loss on the goods, the damage he suffered in his business for the want of the goods. The court said: "The measure of damages in these cases is the actual loss, valuing the goods at their destination. But there is no liability on the part of the carrier for the injury to plaintiff's business, for the contract to carry did not contemplate any responsibility for such damages."—*Baltimore & Ohio Railroad Company vs. Pumphrey, Maryland Court of Appeals.*

The U. S. Government is using large numbers of the Howe Scales. Borden, Selleck & Co., Agents, Chicago, Ill.

AN ENGLISH PORTABLE ELEVATOR.

The grain ports of the United Kingdom, owing mainly to the character and location of her warehouses, have found peculiar factors in the problem of constructing elevators to handle more rapidly their immense stacks of imported grain. Liverpool, the chief seat of this industry, has made various but not satisfactory trials of fixed elevators, but they failed to meet the large requirements of the trade. Early in 1880 a portable elevator invented by Mr. W. Poulson, and improved by Capt. J. Stanhope, both of Liverpool, was brought into use and has been remarkably successful. These Poulson Elevators are extensively used at that port and are owned and worked by a special company, the Liverpool Grain Elevator Co., limited. This company in the half-year ended June, 1881, discharged 21,000 tons; in the half year ending June, 1883, they had increased the amount to 200,000 tons.

This elevator consists of two long wooden trunks, each with a leg acting telescopically, and automatically lowering itself into the grain as required. The grain can be taken from each side of the ship at the same time, and is delivered from a stationary chute near the top of the machine and conveyed ashore by means of endless portable conveyor belts, to any distance up to 100 feet; it may also be delivered over the side into a small craft, and weighed on deck by scales placed under a hopper to which the grain is carried by a sheet conveyor.

The two frames or trunks are constructed of timber, the corners protected with angle iron, and the bodies stiffened well with rolled steel plates. Wrought iron stays are added to strengthen the whole frame work. By raising the pawl when working the full weight of the leg is allowed to rest on the grain, and it will then automatically lower itself until it reaches the bottom of the ship, having a traverse of twenty-one feet. The buckets are made from sheet steel 11x4½ inches and 5½ inches deep, secured by the ends between a pair of detachable chains. A chain race is provided inside, lined with steel plate for the chain to work in, which prevents it from swinging when the ship is not upright, and the buckets are kept true and prevented from fouling each other. Tension gear takes up the slack chain, and special wheels are used to suit the chain. The shafts are of steel, having bell metal bearings. Grates are fitted to the bottom of the legs, of a "V" shaped section, made of steel, to prevent pieces of wood, etc., from getting into the machine. The grain is raised by the buckets and delivered over the top wheels and into the hopper, coming out of the chute. It then drops on portable conveyors, according to distance required, provided with receiving hoppers, and is thus conveyed into the adjoining sheds and delivered in heaps of from 200 to 1,000 tons. The belting is made of cotton. The conveyors are cemented to the machine by means of a swivel device which enables them to be placed at considerable angles to the ship.

A barge, about sixty feet long, fourteen feet beam and six feet deep carries the machinery which when closed, is twenty-eight feet long and weighs thirty-four and one half hundred weight. When required for use, the barge having been brought alongside of a ship, dock, or another barge, the elevator is raised by the receiving ship's gear and lowered into the hatchway, being secured by two beams over the combings. A small engine, with 6-inch cylinders and 8-inch stroke is placed on the ship's deck and coupled to the driving wheel of the elevator by means of a detachable driving chain, and is supplied with steam from the barge boiler by flexible steam hose. The whole can be set up, ready for work, in less than one hour. It will discharge grain at the rate of sixty tons an hour at first, but this will be reduced by trimming the ship, cleaning up, etc., to an average of fifty tons per hour. This machine will unload a steamer forty feet deep, and deliver the grain on the quay at a distance of 100 feet in a pile fifteen feet high. The manufacturers have also built one of these machines with a capacity of 120 tons per hour.

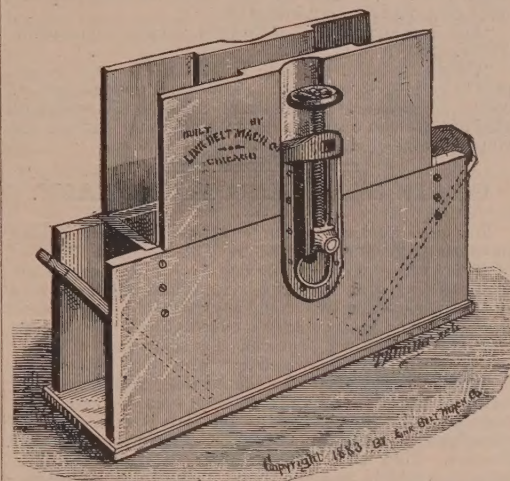
The manufacturers are Messrs. S. S. Stott & Co., of Laneside Foundry, Haslingden, near Manchester, Eng., who, for a number of years, have made elevators a specialty.

Russia is losing her pre-eminence as the granary of Europe, in face of the intense competition of America and India.

A NEW WOODEN ELEVATOR BOOT.

The Link-Belt Machinery Co. of this city have recently designed and are now making a very neat wooden elevator boot, an illustration of which is given on this page. Simplicity and general adaptability seem to be the leading features which commend it to the public.

It frequently happens that several elevators have their head wheels mounted on the same line shaft, which prevents tightening the elevator belt at the head; and as belts are liable to become slack, slipping and choking are inevitable results. Accordingly a means of effectually



A NEW WOODEN ELEVATOR BOOT.

tightening the belt at the boot is extremely desirable, and this is the end sought by this boot. The Link-Belt Machinery Co. also make a boot having the take-up attachment flush with the side of the boot, thus occupying a minimum of space, and allowing two boots to be set close together. Wooden journals are fitted in place of the iron ones when desired.

Late Patents.

Issued on Oct. 16, 1883.

ELEVATOR BUCKET.—Stanley L. Chapman, Winnetka, Ill. (No model.) No. 286,590. Filed Aug. 3, 1883.

GRAIN CONVEYOR.—Frank Bierce, Chicago, Ill. (No model.) No. 286,764. Filed Aug. 28, 1883.

AUTOMATIC GRAIN METER.—George W. Sharp, Crawfordsville, Ind. (No model.) No. 286,645. Filed April 5, 1883.

AUTOMATIC GRAIN WEIGHING APPARATUS.—David D. Kuhlman, New York, N. Y. (No model.) No. 286,934. Filed Sept. 8, 1883.

Issued on Oct. 23, 1883.

ELEVATOR BUCKET.—Robert B. Little, Providence, R. I. (No model.) No. 287,139. Filed Aug. 24, 1883.

GRAIN SEPARATOR AND CLEANER.—Heber Parish, Burlington, Iowa. (No model.) No. 287,154. Filed Aug. 6, 1883.

PNEUMATIC ELEVATOR.—Joseph Lewis, Chicago, Ill. (No model.) No. 287,033. Filed June 11, 1883.

Issued on Oct. 30, 1883.

CORN SHELLER.—George Prichard, Prichardville, Mich. (No model.) No. 287,718. Filed May 19, 1883.

GRAIN ELEVATOR.—William Watson, Memphis, Tenn. (No model.) No. 287,595. Filed March 30, 1883.

GRAIN METER.—Hazel Griffith and Lewis F. Ramsey, Terre Haute, Ind. (No model.) No. 287,535. Filed April 17, 1883.

GRAIN SCREEN.—Chapman E. Gage, Whitehall, Wis., assignor to himself and John L. Knudson, same place. (No model.) No. 287,657. Filed June 26, 1883.

GRAIN SEPARATOR.—Howard Campbell, Richmond, Ind., assignor to Gaar, Scott & Co., same place. (No model.) No. 287,756. Filed Sept. 5, 1883.

Issued on Nov. 6, 1883.

DUMPING PLATFORM.—William F. Nine and Alber R. Case, Sully, Iowa. (No model.) No. 288,103. Filed Aug. 14, 1883.

Where machinery is used, the Drew Oil Cup will save 50 per cent of the oil. Write for circular. Borden, Selleck & Co., Chicago, Ill.

GAMBLING KILLS EXPORTING.

The general silence of millers regarding option gambling is difficult to understand. It is not easy to believe that they are blind to its disastrous influence upon the legitimate business of milling. If they are not blind they can not be indifferent to that influence unless they themselves indulge in gambling to get even and offset its bad effects on milling. The only other explanation of their silence is that they are in the apathy of despair through a realizing sense of their helplessness to prevent the evil. At any rate, it is a novel and somewhat encouraging circumstance to hear of a miller expressing himself squarely and bluntly on the subject. The other day a St. Louis miller unburdened himself as to the situation to a representative of the *Republican* as follows:

"There is more flour exported now than there was several weeks since. I am sending some abroad myself, but I do not expect to make any money upon it. I ship at a loss simply because I want my flour in the market there. We can't do anything exporting as long as wheat holds up to its present prices. Why, last year at this time wheat was 9 or 10 cents cheaper than it is to-day. The prospects for our foreign trade all depend on whether we let down the prices on wheat. It is the option speculation which is responsible for the whole thing. These scalawags with five or ten dollars in their pockets fix the price of wheat for flour. It is the selling stuff for future delivery at a premium sufficient to justify the elevators and banks in pooling their issues and carrying the grain, that keeps up breadstuffs to fictitious prices. If it were not for this we could ship 10,000 barrels where we ship 100 now. Speculating in futures is damaging the country more than anything else, but just now I don't see that we have any remedy."

In this little speech is the truth, as in a nut-shell. Thousands of millers silently lament the bankrupting force of that truth. The foremost question is: Will it do any good to "kick." We say: Yes. The miller we have quoted says that he don't see that the millers have any remedy. Well, how are the probable weak points in the grain-gambling system to be ascertained unless the whole structure be thoroughly kicked against, and sounded through and through. Let the "kicking" be got well under way and splinters will soon begin to fly. The trouble is there is a powerful reluctance among the different lines of trade to bother each other. This feeling prevails to such an extent that there is an unnatural sympathy between fictitious and legitimate trading. Let the reader think awhile and he can not remember that legitimate traders have ever, as a community, made concerted attacks upon the system of gambling in staple commodities. They have never let their indignation loose upon the subject in any practical way. Let the millers bring all their influence to bear against the single evil of grain gambling, from all parts of the country, and utilize every possible point of attack, and we feel certain that great good will result, though it must be taken for granted that operations in "futures" can never be wholly suppressed. Will it pay? Of course it will if the outcome will be the exporting of 10,000 barrels of flour where only 100 are shipped, as things are now.—*St. Louis Miller.*

A FREE STEAM CANAL.

The subject of the "raging canal" is not a thrilling one, but there are few topics of more intimate concern to every one in this country than the extension of the canal system, especially the free-canal system. There are no improvements of the face of Nature now more widely and eagerly discussed than the various projects for digging canals in different parts of the world. The Florida ship canal, the canal to cut Cape Cod in two, that to make Manchester, England, a seaport to rival Liverpool, the projected second Suez Canal, our own smaller enterprises like the enlarged Michigan & Illinois and Hennepin Canal, and that which Baltimore wants to see opened between itself and the Delaware, are some of the more important schemes for improving water communication.

It has been a favorite doctrine with railroad political economists that the day of canals was past, but the increasing amount of capital going into waterways does not seem to bear this view out. Never before in the history of the world has more energy been devoted than now to the extension of these channels. One reason, paradoxical as it may at first sight seem to be, is to be sought in the fact of the wonderful development of the railroad power. The surest corrective of railroad extortion is water transportation. While Parliaments, and Congresses, and Legislatures are brooding with very little success over the problem how to keep down the tendency of the railroad tariffs to charge "all the traffic will bear," the watercourses, natural and artificial, are exercising a quiet but irresistible influence in cheapening carriage.

The facts which we have lately furnished about the business of the Erie Canal since it was made free have been most encouraging, and leave no doubt that the abolition of tolls was a step of the highest wisdom. That action will probably prove second only in importance to the development of the commerce of New York—which is but another name for that of the Great West, of which New York is the trade outlet—to the original inception of the Erie Canal by the long-headed merchants of De Witt Clinton's day. The Canadians who dreamed of diverting the traffic of the Erie to the Welland can do no less than to follow suit in making the latter free, and al-

ready a strong party in favor of that policy has been formed in Canada.

The New Yorkers do not propose to rest with making their canal free. It is now proposed to enlarge it so as to make the Erie Canal navigable for large vessels driven by steam. When this is done it will be possible to bring the grain of the West through the canal for 33 per cent. less than the lowest rates made heretofore by the canal. The friends of this policy intend to agitate it among the people before going to the Legislature with any scheme for legislation. They are confident that it only needs to be presented to them to be approved, and that when the matter comes before the Legislature the force of public opinion will insure its passage.—*Ex.*

"PUCK'S" CROP REPORTS.

[Especially procured at enormous expense for the use of unhappy Wall Street bulls and bears.]

A BAD OUTLOOK.

HOBOKEN, July 17.—The long period of dry weather is having its effect on the crop prospects on Sandy Hook. Advices from the Swash Channel are of the gloomiest nature. The bananas are so small that they might easily be mistaken for Lima beans, and the pumpkins and clam-fritters are beading out in a feeble way on straw not over six feet high. The spring wheat is so burnt up that farmers are offering it to the Long Branch hotels for charcoal. The winter wheat has to be put under microscopes that magnify 60,000 diameters to catch a glimpse of it. It will probably have to be given to the poor. It is estimated that the deficiency in these crops will be 795,000,000,000 of bushels over those of last year, and that everybody, for the next twenty-five years, will have to subsist on bread made from saw-dust.

BRIGHT PROSPECTS FOR THE CROPS.

SANDY HOOK, July 17.—Last year's crops of soft-shell crabs and winter wheat exceeded the crops of 1761 by 37,000,000,000,000 of bushels. This year they will exceed it by at least double that amount. The heavy rains have caused everything to spring up in such profusion that there is no room to move about comfortably. There has been a number of deaths from suffocation owing to the rapid growth. A farmer and his family of six were walking through a wheat field after a shower, when suddenly the wheat rose to a height of twenty-five feet in as many seconds, smothering them completely, long before they had time to call for aid. The great question is if sufficient people can be found to gather these prodigious crops. The Government ought to lose no time in getting over the remainder of the population of Ireland to help. All the hotels within twenty miles of here present a curious appearance, being seventy-five feet in the air, resting on ears of wheat and cobs of corn. The wonderful fertility of the district is absolutely unprecedented. Grain was never known before to be strong enough to force large buildings from their foundation. Guests are obliged to get to the hotels by balloons.

EAST-BOUND CLASSIFICATION FROM CHICAGO.

Various mistakes have lately occurred in the weekly statements of East-bound shipments of flour, grain, and provisions issued from Mr. Moore's office, owing to a misunderstanding on the part of the local freight agents of the various roads as to what articles should come under the different heads. In order to avoid similar mistakes hereafter it was decided that all shipments, both through and local, of the following-named articles only should be included in the weekly reports made to Commissioner Moore's office by the different roads:

Flour—Under this head should be included: Flour, corn meal, and oatmeal.

Grain—Under this head should be included: Wheat, corn, oats, rye, barley, malt, bran, and mill-stuff.

Provisions—Under this head should be included: Cured meats in packages or bulk, canned meats in cases, beef in tierces or barrels, pork in tierces or barrels, and lard.

The Ladies' Grain Exchange, the solitary sister of the "bucket shop" fraternity of this city, which has been in operation for a considerable time, has recently risen to the top floor of a building near the corner of LaSalle and Madison streets. A persevering reporter of the *Tribune* recently paid them a visit at about 10 o'clock p. m., at which time the room was pretty well deserted. The apartment was plainly furnished, and adorned with a couple of chromos representing pastoral scenes, and a highly colored lithograph of the "Jersey Lily." There was but little stimulus offered to aesthetic taste or culture. At one end of the room was the manager's desk near the "ticker," and at the other a long table with files of the daily papers, and two well worn wicker rocking chairs. The following interesting interview occurred:

"Oh, you are not going to write us up?" said the matron, or rather the manager of the exchange, in a deprecating manner, as she arose, her lead-pencil deftly impaled in her back hair. "We do so dislike to be ridiculed in the papers," she continued; "some people, you know, think it is wrong for women to speculate. But, really, I do not see why we have not a right to do so as well as gentlemen. For my part, I operated several years on the Board of Trade through a broker before the exchange was founded, and I was fairly successful. Formerly the exchange was located in so public a place that it was embarrassing for many women to attend, but here, as you see, we can transact business very quietly. The exchange passed into the hands of Mr. J. W. Brown,

two weeks ago, and he conducts our business for us on the open board. One of his daughters presides at the 'ticker,' and the other at the telephone, and thus we are in constant communication with Mr. Brown. The telephone, you understand, is a private one connected with the open board."

"Have you many patrons?"

"Well, we always have from twelve to twenty here during trading hours—sometimes more."

"Are there any 'high-rollers' among them?"

"No; I assure you we try to keep such characters out."

"I mean by that women who speculate largely."

"Oh, yes; we have several who are accomplished speculators. We have two or three, for instance, who have gone quite deeply into pork."

"And how about lard?" asked the reporter sympathetically.

"Very little has been done in lard as yet, but we expect to go into it very soon. Most of our speculation, of course, is confined to the small grains. We would be glad to have you come during trading hours and see for yourself how we do business."

GRAIN GAMBLING MADE EASY.

For some weeks past three mysteriously acting men have each morning gathered in a basement in Board of Trade alley and spent the day experimenting. They would get together around a box, and one of them giving it a whirl, the other two would say "wheat up" or "wheat down." Then would follow a consultation. The mysterious meetings have occurred day after day. The box has been whirled and whirled; "wheat up" and "wheat down" have been shouted some millions of times. There followed little consultations until all record of them has been lost. The mysterious triumvirate was set down as conspirators—Irish invincibles. But they were too well dressed. They acted like thieves; but, aside from the whirlings which took place and then the consultations, there was nothing to cause suspicion. They acted something like lard experts, but they made no analyses. The trio, in fact, were Morris Martin, whilom bunco-man; C. L. Campbell, a horse-trader, and Jim Wolcott, a board of trade member, for the nonce down in the shoes. They were simply inventing a new game. Tuesday, at Springfield, the trio took out corporation papers for the Phoenix Grain and Stock Exchange, with a capital stock of \$300,000. It is the first time on record that gamblers ever had the hardihood to go to Springfield and blandly ask for letters of incorporation for a chuck-a-luck lay-out.

The Phoenix grain and stock exchange is not to be a bucket-shop, as one naturally from its name, would be led to believe. It is to be a gambling saloon, wherein Martin's new game is to be played. The new game, it is said, beats faro or roulette; it even goes ahead of craps. It is really a species of chuck-a-luck. The name of the concern, the pretended \$300,000 capital, are bluffs. They are clever dodges to avert police espionage. The lay-out is simple. There is a box. In it are placed cards upon which are printed the words "pork," "wheat," "oats" and "corn." The box is whirled. There are two places where the cards can lodge. If wheat flies up, the fellow who "speculated" on the "bull" side of wheat wins his money; if the wheat card drops down, the "bear speculator" takes the money.

It is, in street parlance, a great fake. Martin always was a slick one. He was clever enough, when in partnership with Mike McDonald, to "get away with the boss." But it takes a far higher order of talent to inaugurate a new game of chance than to operate with the old ones. Martin, when he owns his new "chance shop," will not have a card around the place. There will be no betting on color, nor "coppering" of kings or queens; nor any lay-outs, nor any green tables. There will not be any chips either. The windows will be wide open, and there will not be any heavy doors with colored men on guard. Business will be opened up in the basement in Board of Trade alley where an extensive pool-room was. There will be a huge gilt and black sign as follows: "Phoenix Grain and Stock Exchange." There will be the box, of course, and the little pasteboards with the "wheat," "pork," "corn," and "lard" printed upon them. There will be a man to do the whirling, to be sure, and a man to scoop in the money, but none of the horrid features of a gambling hell. All gamblers' alley is in a ferment over the new shop. The sports from one end of the city to the other are amazed at the simplicity of the scheme and are cudgeling themselves that, instead of fighting Carter Harrison and "heeling" the police, they did not think of Martin's fake. Meanwhile, the three incorporators are pushing things for their opening next week. The city is being flooded with paper. The little paste board cards are being prepared by the hundred thousand. The room is being filled with benches and other furniture. Martin is likely to go down in history along with poker Schenck and the French monarch who discovered whist.—*Chicago Times.*

BOARD OF TRADE ROMANCE.—A lovely girl toiled at the wash-tub. She said, "I will be worth one thousand dollars. I now have but five for ribbons."

She went to a broker on the Board of Trade to whom she thus spoke: "Here is five dollars. Buy me five thousand dollars worth of wheat on a margin and sell when it is worth six thousand plus your commission." He did so, and paid her one thousand.

Then said the lovely girl: "I must have a million dollars. I have but a thousand to reside at the Palmer caravansary for one day."

She went to her broker and said: "Buy me five mil-

lion dollars worth of wheat on margin and sell it when it is worth six millions plus your commission." He did so, and paid her one million dollars.

Then said this lovely girl, "I must have twenty-five million to live in good New York society and support a husband." She went to her broker and said: "Buy me all the grain in the world on margin and realize twenty-five millions plus your commission." He did so, and lo and behold he realized her fifty millions.

Then this lovely girl sold her wash-tub and went to Moscow to represent the American Government at the coronation of the Czar. She took along sixteen of the finest dresses in the world and spent 3,000,000 rubles among the astonished nobility. She married one of the nobility.

Alas! he turned out to be a dude and expended all her fortune on tight pantaloons.

Then she came to Chicago for a divorce. She received it one hour and twenty minutes after the application. Will some kind gentleman loan her twenty-five cents to buy a new tub?

EARLY OR LATE TRANSPORTATION.

There is a very important question soon to arise in Minnesota for its commercial men to consider, and that is whether it is better for the state to have as much of the grain as shall be ready for market, moved out to its destination before the close of lake navigation? Or whether it would be more profitable to have the bulk of it remain, put passing out over the railroads in winter, and the balance to go at the opening of navigation in the spring? If those who are buying on commission, and receive a regular per cent. on the bushel, would name the season of the year when they could probably pay the most for it, that would go a long way in assisting to solve this problem, but if they do not, or cannot, it should be arrived at in some other manner, that an operating basis from it may be had. As a general thing, wheat is higher in the early spring, or at the opening of navigation, than at most any other time, although the month of June often rules higher prices than others; but whether this increase in price is mostly eaten up by interest on the money invested in it, insurance and storage, is a matter to be ascertained in the calculation.

We are not in first class trim to move off the bulk of grain before the closing of lake navigation, and will not be without another road from this direction—one from the vicinity of Crookston, and another from St. Paul, all leading through the hard wheat belt to Duluth. If these should be built to carry the wheat to that point for Eastern use, or down to points on Lake Michigan, the boat carrying capacity from Duluth should be at least doubled, to take it away upon immediate arrival. Eastern boats could doubtless be had to this capacity upon respectable no ice, that business was awaiting them from this section of country. If home demand in this event could be induced to delay supplying itself until the close of navigation, it could purchase the remainder of the crop during the winter, and could afford to pay the farmer much better prices for it, and at the same make as good a profit as buying earlier in the season the price paid for the wheat. That there is something in all this which requires the best commercial brains and foresight in our state, we believe to be true, and that it may present itself for our determination before we shall be ready to dispose of it, will not be at all surprising from our standpoint at least. We as a state can poorly afford to take too hasty action in so important a matter, with the cities of Milwaukee and Chicago so near us.—*Morris Tribune.*

HARD WHEAT AT DULUTH.

The Minneapolis *Journal* having stated that the hard wheat of the Northwest went to that city, and only the softer varieties to Duluth, the following table of the receipts for one week has been compiled from the Duluth Daily Market Report. It will convince the farmers and even the millers that Eli Perkins' half brother is editor of the Minneapolis *Journal*:

DATE.	No. 2 hard.	No. 1 hard.	No. 1.	No. 2.	No. 3.	Rej. & Con.
Oct. 19.....	85	33	12	2	1	2
Oct. 20.....	97	21	10	9	4	6
Oct. 21 and 22.....	107	22	10	8	4	7
Oct. 23.....	70	19	15	6	2	9
Oct. 24.....	3	10	13	10	3	—
Oct. 25.....	60	41	22	14	3	3
Totals.....	416	135	82	39	17	27

If the *Journal* statistician has not forgotten how to add, he will see that during the past seven days Duluth has received 116 cars more of hard wheat than of all the other varieties combined. He will also please take notice that 716 cars were received at this port during the seven days last past, a little over 100 cars a day. This is a little cud for Minneapolis to chew on until next year, when we will furnish a bigger one. There is nothing small about Duluth.—*Duluth Sunday Times.*

The Tulare, Cal., *Times* says the wheat yield on irrigated land in Tulare county is enormous, some fields yielding forty-four bushels to the acre. That journal also says the irrigated district is about fifteen miles long by eight broad, and the crop for 1883 will reach 400,000 sacks, or 800,000 bushels.

The Trade.

Messrs. Seeley, Son & Co., elevator builders, Fremont, Neb., have in the past season built twenty-two new elevators, all steam power but one, and repaired eight others.

The Cummer Engine Co. sold a number of engines at the Cincinnati and the Louisville expositions, including the engines they had there on exhibition. It has been said, by persons having the opportunity of knowing, that this company made more sales at these expositions than all the other engine builders combined.

Messrs. Johnson & Field, Racine, Wis., shipped the past month a number of their Dustless Separators, to different parties, among which we may mention the following: A No. 2 machine to L. W. Gray, Pelican Rapids, Minn., and No. 3 machines to each of the following parties: F. Hitter, Monticello, Minn.; Gus. Sumwall, Forest City, Iowa; Frank Bean, Calvary, Wis.; Charles Stuart, Menlo, Iowa; N. H. Warren & Co., Earl, Ill.

H. W. Caldwell, of 46 South Canal street, this city, evidently appreciates the importance of filling orders quickly. The other day he received a telegram from Mankato, Minn., at 4:10 p. m., for 80 ft. of 9-inch conveyor, and it was on its way at 4:40. A telegram from San Francisco for 200 feet of 4-inch conveyor was loaded one hour after receipt of the telegram. An order from St. Louis for 4-inch conveyor to go by express, was in the express wagon fifteen minutes after receipt of telegram. This sort of thing pleases customers.

The Link-Belt Machinery Co. are busy upon two grain elevators for F. W. Stock, Hinsdale, Mich., and upon an elevator and driving-gear complete for A. R. Daughenbaugh, Gowrie, Iowa. This company is also building an elevator for Hatch & Baker, Lyons, Mich., one for Alfred Pardoe, Pleasant Dale, Neb., and another for Christian Kern, Port Huron, Mich. This company also have in process of construction an ash-elevator for the Chicago Times, and an ore elevator for H. B. Clauson, Salt Lake City, Utah. The tile elevator exhibited by this company at the Inter-State Exposition was shipped to the Western Brick and Tile Company, Galewood, Ill.

Fires, Casualties, Etc.

A. B. Randall, a corn dealer at Oswego, N. Y., died recently.

Mr. Furlery, oil and grain dealer at Buffalo, N. Y., is said to have mysteriously disappeared.

George W. Adams, of New York City, a grain broker and a member of the Exchange, died Oct. 13.

The Union Depot Elevator Company, St. Louis, Mo., was partially burned out recently. They were fully insured.

W. F. Otis, a man prominently identified with the elevator business at Cleveland, Ohio, died Oct. 18, in his 74th year.

John Marling, grain dealer at Hartsburg, Ill., died on the morning of Oct. 23, an event that had been expected for some days.

The Commercial Elevator at Peoria, Ill., containing 45,000 bushels of oats, was burned on the evening of Oct. 23. The loss was \$20,000.

The elevator belonging to Nichols & North at Parnell, near Clinton, Ill., was burned on Oct. 29. The loss was about \$5,000; insurance \$2,500.

A. J. Sawyer's large elevator at Villard, Minn., recently burst on one side, causing considerable damage, and much wheat ran out. No one was injured.

One of J. McDougal's grain and flour warehouses at Montreal, Can., was burned Oct. 22, and another badly damaged. The loss was about \$30,000; insured.

Alexander Gordon, formerly superintendent of the Union Elevator, Minneapolis, Minn., died Nov. 6 from the effects of a fall at the elevator a few days before.

Edward Lyon, of the firm of Edward Lyon & Co., grain brokers, New York City, died Oct. 13. He was a member of the Produce Exchange and of its Gratuity Fund.

The grain warehouse of C. E. Mosely, at Corsicana, Tex., was destroyed by fire Oct. 11, with its contents. The grain was insured for \$3,000, and the building for \$750.

At Ogle Station, Ill., on the Cairo Short Line R. R. a man operating a steam shovel was killed on the morning of Nov. 9. An hour later the boiler of the engine running the steam shovel exploded and seriously, perhaps fatally, injured the engineer and fireman.

Geo. Lax, son of E. C. Lax, a prominent grain dealer at Jacksonville, Ill., and brother of P. M. Lax of Ashland, Ill., was found dead in his bed at the Transit House in the latter place, where he was visiting, on Nov. 1. Apoplexy was supposed to have been the cause.

The oat-meal mill belonging to Brown & Dedrick, together with two grain elevators, were destroyed by fire at 7:30 p. m., on the evening of Oct. 22. There were also about four thousand bushels of oats and other grain destroyed. The loss is \$20,000; insured for \$5,000 on buildings and \$600 on grain.

A fire on the morning of Nov. 3 destroyed the large four-story warehouse at Paris, Ky., occupied by R. B. Hutchcroft & Co. for storing hemp and grain. The building, 100x40 feet, was filled from the first to the

fourth floor. The fire originated in the ground floor either from spontaneous combustion or an incendiary. The total loss was \$50,000; insured for \$33,950.

A boy named Johnson recently threw his arms around an upright shaft in an elevator at Kirby Station, Ill. He intended to let it turn him awhile then jump off, as he had seen other boys do. The shaft was making 180 revolutions per minute. The consequence was that his coat got wrapped so tightly around the shaft that he could not release himself. His feet struck a beam at each revolution, and were pounded to a jelly. The engine had to be stopped to release him.

About 2 o'clock on the morning of Nov. 7, fire was discovered in the upper part of Elevator "B" at Dell Rapids, Dak., owned by Cargill Bros. As there was a high wind it communicated to an elevator near, owned by Bonner & Hyde. Both were totally destroyed, together with two cars loaded with grain for shipment. Loss, \$10,000. Insured. There being no facilities for extinguishing fires, when it was found impossible to save the elevators the spouts were opened and the grain allowed to run out on the ground, but even this was destroyed, as the burning sides fell out. But for the prompt and energetic efforts of the citizens, the whole village would have been destroyed. It is impossible to account for the origin of the fire.

Railway Intelligence.

It is said that the Chicago & Northwestern R. R. is backing up the new Winona, Alma & Northern R. R.

Mr. Van Horne, General Manager of the Canadian Pacific Railway, estimates the wheat crop of Manitoba at 6,000,000 bushels, 2,500,000 of which will be available for shipment.

Grading is under way on the Dakota and Great Southern line, from Tower City, Dak., south. This line will be the Red River Valley feeder of the Chicago, Burlington & Quincy road.

The Central Pacific Railroad announces that it will transport grain from Winnemucca, Battle Mountain, and other stations in that part of Nevada, to San Francisco or Port Costa for \$6 per ton. The old rate was \$28 per ton. This reduction will be of great benefit to the Nevada farmers.

A Des Moines dispatch says: "The work of construction has commenced on the La Crosse, Iowa & Southwestern Railway, which is to cross through the center of Iowa and go to Kansas City. It will pass through Charles City, Boone and Des Moines. The Canadian Pacific is said to be backing it financially."

The action of the Chicago, Milwaukee & St. Paul Ry. Company in virtually forbidding the shipment of grain in their cars except through the elevators established along their line, has made the farmers of Mellette, Spink Co., Dak., feel very indignant. They think it is an outrage on the business interests of that community, and say that it effects a loss of from five to ten cents on each bushel of wheat they sell at that point.

The Portland, Ore., Farmer says: "Shipping grain East by railroads is looked on as impracticable, but the world has got used to doing impossible things, and we expect to have Oregon and Washington wheat and flour shipped to Duluth, and there take water transportation for New York, or perhaps for England. We have no idea that railroads will let all the products of our region take ocean routes."

A dispatch from Little Falls, Minn., says: A small-sized railway war cloud has burst upon Little Falls, in the contest between the Northern Pacific road and the merchants of the place. It seems that A. J. Sawyer of Duluth, who controls the largest sized grain elevators, has secured the company's interest in the warehouse here, and made early in the season an exclusive arrangement to contract all the grain shipped at this point through his elevator. J. H. Rhodes, an old dealer, when he was buying the season began to find himself shut out from the company's books, and found the company had arranged to move only Mr. Sawyer's grain, beginning back as far as Oct. 5, demurred, and a red hot correspondence has been in progress between Mr. Rhodes and the general officers of the company. The crisis was reached two days ago in the flat refusal of the company, through both Freight Agent Haniford and Division Superintendent Odell to furnish Mr. Rhodes cars to move his grain. The refusal has created great excitement, as it was virtually an attempt to force the people to sell only to Mr. Sawyer's elevator. The language used by Haniford was that "Mr. Sawyer had large capital invested here, and must be protected." This greatly inflamed Little Falls, and placards and bills brought the people together in a large meeting at the court house that evening. The evening was consumed in speeches, and a committee was appointed to draft resolutions tonight. A second meeting was held, when the committee reported, amid great enthusiasm, a resolution highly condemnatory of the company's action. The acts of discrimination were condemned as revolutionary and destructive of popular rights. The resolutions were adopted with much spirit, and copies ordered sent with copies of the correspondence to President Villard, Gov. Hubbard, and Railroad Commissioner Baker. Speeches were made pledging the business men to unite to prosecute the case to a just end, attorneys pledging their services free of expense. Money was also pledged to secure the best legal assistance.

Canals and Marine.

Speaking of the Illinois & Michigan Canal, the LaSalle Press says: "The waterway over which last year was transported 3,900,000 bushels of grain, 41,000,000 feet of lumber, 22,000,000 shingles, 8,000 tons of coal, 41,000 tons of ice, 55,000 tons of sand, with thousands of tons of other merchandise of classes too numerous to mention, isn't a defunct institution yet, if some docks have gone to decay, and boatmen no longer fight for preference in chances to get through locks crowded with business."

The Philadelphia Times is opposed to the Hennepin Canal, and says: "The almost uniform canal policy in this country has been construction by states. New York, Pennsylvania, Ohio, and Indiana did not beg the General Government to give money for digging canals inside their limits. They went to work, raised the money by taxation, took the responsibility, and reaped the profit. Illinois can secure its canal in the same way. If this is not thought desirable, the later precedents favor the construction of canals by private capital. The projected Delaware and Chesapeake Ship-Canal, the Florida Ship-Canal, and that across Cape Cod are all to be built in this way. The people of these different sections have found that the best way to do a thing is to do it and be done with it."

The distance from the mouth of the St. Lawrence to Duluth is 2,384 miles, of which 375 miles lie between Lake Erie and the seaboard, including about 71 miles of canals. The Welland starts from Lake Erie, 17 miles west of Buffalo, and at a distance of 27 miles empties into Lake Ontario at a point opposite Toronto. The work on this canal will be completed in about a year. Around the various rapids of the St. Lawrence are five canals varying in length, amounting in all to about 44 miles. The total height overcome by the 53 locks on these canals is 533 1/4 feet. It is expected that the entire work of improvement of river and canals will be completed in six or seven years, when Canada will have spent upon her canal system a sum not less than \$50,000,000.

Congress during a term of years has appropriated large sums of money to make a canal and slack-water navigation across the State of Wisconsin, called the Fox and Wisconsin River improvement. The alleged improvement begins and ends in Wisconsin. If it is constitutional to expend Federal money on that project why is it unconstitutional for Congress to vote appropriations for the proposed Hennepin Canal? The object of the latter is to connect the chain of lakes with the Mississippi River by water navigation. It is sought to transship Pennsylvania products from Erie to Davenport, Quincy, Burlington, Keokuk, Dubuque, La Crosse, Stillwater, and St. Paul by water, and also the products of New York, New England, Ohio, and Michigan by the same route. Would such commerce be "local," and restricted to the single State of Illinois?

A correspondent of the Morris, Minn., Tribune, says that Mr. Washburn complains of low water at Minneapolis, preventing the mills from running at full capacity. The writer advises that Mr. Washburn should unite with those who wish to improve the navigation of the river below, and as a member of Congress, aid in obtaining an appropriation for cutting a canal from Duluth to the most available point on the Mississippi River. It is doubtful, he thinks, whether water can be successfully obtained by means of the proposed dams at the head of the river. The canal plan would succeed, and though more expensive, when made it would make a connection of the large rivers with the great lakes, and be "worth untold millions to the commerce of the East, West, North and South alike, and would make the Mississippi, with proper locks and draws on Lake Superior to regulate flow, a navigable stream during the ordinary season." A canal, the writer says, starting from the Lake of the Woods, or some point on Rainy Lake River, would supply water, but would not make this much-needed Lake Superior connection.

Mr. Hugh McLennan, in a recent lecture at Montreal, gave a brief history of the Canadian waterways, from the introduction of steam navigation on the St. Lawrence, in 1809 to 1834. About the year 1818, Great Britain, aroused to admiration by the evidence of loyalty evinced by her new colony in the matter of improving the waterways, early accepted the responsibility as pertaining to the Government. The construction of the Rideau Canal was accordingly commenced under Col. By in 1827, and was opened for traffic in 1832. This was the greatest engineering accomplishment of the period, both for the skill that devised it and the energy which accomplished it within the time. During the intervening years between 1821 and 1832 great progress was made in the settlement of the country; exports and imports had increased largely, with Prescott as a transshipping point for the lake trade. The Lachine Canal was completed in 1825, and some barges of larger capacity (about 50 tons) had been built available for the trade with near points on the St. Lawrence and Ottawa, and in anticipation of the opening of the Rideau. Stages were introduced between Montreal and Prescott by Horace Dickenson, of Montreal, and Hiram Norton, of Prescott, and the passenger business was well provided for by steamers to all lake ports, with Queenstown as the center of the western trade. He referred to the efforts of the late Capt. Brush, Mr. John Torrance, and John Hamilton Barrett in those days. Through the efforts of the latter a water connection was opened between Lake Ontario and Lake Erie, and the first vessel passed through from one lake to the other in 1834.

Elevator and Grain News.

R. J. Moore, grain dealer at Saltillo, Neb., has sold out.

A new mill and elevator is being built at St. Lawrence, Dak.

The town of Holdredge, Neb., is going to have an elevator.

A fire recently at Oriska, Dak., destroyed 57,000 bushels of wheat.

The new Espencheid Elevator, at Hastings, Minn., is about completed.

R. J. Hardy & Co., wholesale grain dealers, Boston, Mass., have failed.

O. C. Garrett, grain commission dealer of Dallas, Tex., has sold out and left town.

S. G. McGill & Sons, grain merchants at Fargo, Dak., have dissolved partnership.

One day recently, Graves, McEwen & Johnson, Geneva, Ill., paid out \$5,400 for corn.

Wheat receipts at Grafton, Wabash Co., Dak., run as high as 50,000 bushels a week.

H. W. Pratt has sold his elevator at Faribault, Minn., to F. A. & S. L. Bean for \$7,612.84.

A transfer elevator with a capacity of 100,000 bushels is to be erected at St. Cloud, Minn.

Manitoba wheat is being shipped to Ontario and Ottawa, Canada, in large quantities.

C. B. Lathrop & Co., grain commission merchants, New York, N. Y., have suspended.

John Lenon, a grain dealer in Delhi, Ind., recently failed. The liabilities were \$40,000.

W. M. Darter, grain, etc., dealer at Darter, Ind., has made an assignment to B. F. Gardner.

The Harding Elevator, just erected at Des Moines, Iowa, has a capacity of 500,000 bushels.

The much talked of and long looked for elevator at Gary, Dak., is completed and in running order.

Mr. Chas. Keith has completed his large warehouse at Volga, Dak., and has commenced to purchase grain.

Mr. Elam Clark of the firm of Elam Clark & Sons, millers and grain dealers at Waterloo, Neb., is dead.

John Sutcliffe, of Wheaton, Ill., has rebuilt his elevator, recently burned, and is placing the machinery.

Elevators are being built at Pingree and Sykesville, Dak., and a first-class one is to be erected at Carrington.

H. W. Pratt & Co. have purchased Elevator "C" on the Chicago, Milwaukee & St. Paul Railroad at Minneapolis, Minn.

Weber & Marian, grain and lumber dealers at Richland, Neb., have dissolved partnership, Mr. Weber retiring.

Huntoon & Kuhl, grain dealers at Earling, Iowa, have dissolved partnership. D. H. Hunter succeeds to the business.

A. T. Rodgers, Beloit, Kan., has ordered a complete elevator outfit from the Great Western Mfg. Co. of Leavenworth, Kan.

The elevator at Walcott, Iowa, owned by Stockdale & Deals, is running all the time, and the firm reports a good business.

Bridges & White, of Crete, Neb., are making preparations to build a 20,000-bushel grain elevator in connection with their mill.

A warehouse corporation has recently been formed at Dalles, Ore., with a capital stock of \$50,000. E. B. McFarland is at the head.

Hill & Triesen, Hillsboro, Kan., have ordered machinery for their new elevator from the Great Western Mfg. Co., Leavenworth, Kan.

Mrs. Wm. McGeoch, the mother of the noted lard and grain speculator, recently died at her home in Tomah, Wis., aged seventy-three.

In September, 195,000 bushels of wheat were marketed at Tower City, Dak., and the October receipts averaged 10,000 bushels per day.

During September N. J. Rulison, Seneca, Ill., took in at his elevators 230,000 bushels of corn and oats, besides timothy seed, rye and other grain.

The Great Western Mfg. Co. of Leavenworth, Kan., are furnishing N. P. Simmonds & Co. of Minneapolis, Kan., with a complete elevator outfit.

The machinery for Kettenhoven Bros.' new elevator at Appleton, Wis., is being placed in position, and the concern is expected to soon be in operation.

Morden, Manitoba, a new station on the Manitoba Southwestern Road, bids fair to become the wheat market for the Pembina mountain district.

C. H. Corbin & Co. of Liberty, Mo., are adding to the capacity of their mill, ordering their machinery from the Great Western Mfg. Co. of Leavenworth, Kan.

The elevators and grain houses of Minneapolis, Minn., are included in the reduction of twenty-five per cent. in rates made by the board of insurance companies.

The Sun of Brandon, Man., says: "The Ogilvie Milling Co., having completed their contracts for the West, are now brought into competition with the Eastern mar-

ket. As a consequence wheat has dropped to 72 cents. Freight from Winnipeg to Montreal is 30 cents per bushel lower than from Chicago to the latter point."

A. R. Ritterbush, Long Pine, Neb., has ordered from the Great Western Mfg. Co. of Leavenworth, Kan., a 30½ inch Leffel Wheel and machinery for his new mill.

It is reported that the business men of St. Peter, Minn., recently raised money and put a man on the street to buy wheat and keep prices up to the highest point.

The firm of Robert Hughes, Ashville, Ohio, grain dealer, has been succeeded by Hughes & Humble. This is simply the addition of the book-keeper of the old firm.

Roach Bros. of Clyde, Kan., have ordered a complete elevator outfit, including a 20-horse power engine and boiler from the Great Western Mfg. Co. of Leavenworth, Kan.

W. S. Charles, North Topeka, Kan., is building an elevator on track of the U. P. R. R. and has ordered a sheller and cleaner from the Great Western Mfg. Co. of Leavenworth, Kan.

Geo. L. Blanchard has bought both of the warehouses at Lostant, Ill., and will soon have them thoroughly overhauled, enlarging their capacity, and putting them in first-class order.

J. M. Wayman, a prominent grain merchant of La Gro, near Wabash, Ind., made an assignment Nov. 6. His liabilities are placed at \$8,400, and his assets, not yet known, are very light.

The Arkansas Oil Co. have placed their orders for chain elevators and conveyors with the Lechner Manufacturing Co. of Columbus, O., for use in their extensive works at Texarkana, Ark.

Higbee & Co., grain buyers of Fremont, Ohio, are insolvent. The firm was quoted at \$100,000, and had elevators at a dozen points on the Nickel-Plate and the Lake Erie & Western Roads.

Funk & Son, Hillsboro, Kan., have ordered of the Great Western Mfg. Co. of Leavenworth, Kan., a full line of machinery for their elevator, transmitting power for their mill engine by wire cable 1,000 feet.

A. J. Stephenson & Co. of Kidder, Mo., are rebuilding their mill, partially destroyed by fire, and have placed their order for the necessary machinery with the Great Western Mfg. Co. of Leavenworth, Kan.

John J. Walterhouse, of Vincennes, Ind., has the contract for rebuilding the elevator of W. Trow & Co., at Madison, Ind., recently burned. The elevator is to have a storage capacity for 140,000 bushels of wheat.

The extensive elevators of Douglas, Stuart & Forrest, Oregon, Ill., have been re-opened by Mr. Alex. Cantley, their popular book-keeper, for the reception of all kinds of grain. Oregon now has, it is said, the best grain market in the country.

The farmers in Wisconsin and the Northwestern states are holding back their grain in the expectation of getting better prices later on, and while they are doing this foreign countries are sending their surplus forward and selling it at market prices.

On Oct. 22, M. S. Nichols & Co., of this city, brought suit against Charles W. Partridge and Ransom J. Morse for a \$10,000 debt. This is the defunct grain firm who have been trying to realize upon their losses since their failure just after the McGeoch troubles.

The Lechner Manufacturing Co. of Columbus, O., manufacturers of roller detachable chain belting and elevating and conveying machinery, have received orders for chain belting from Samuel Kaucher, St. Joseph, Mo., and have also furnished Hardesty Bros., of Columbus, O., with detachable chain for driving purposes.

Wm. K. Rice, engaged in the grain business at Audubon, Ia., has decamped, leaving the local banks in the lurch to the extent of \$5,325. He began by getting money on his bills of lading. After the banks had acquired measurable confidence he began to neglect to attach his freight vouchers, handing them in a day or two later. Then he made a general haul.

Joseph Hill, of New York City, advertised on Oct. 18, for 1,000,000 feet of elevator lumber to be delivered at the R. R. depot, Bozeman, Mont. The building is to be constructed in the spring, and used chiefly for shipping oats. Wheat, it is said, finds a ready market there at from \$1 to \$1.25 per bushel, and could hardly be shipped and sold in Minneapolis for 90 cents. The wheat and flour trade are said to be almost entirely local in the Gallatin Valley, while the six flouring mills there have a capacity of 575 barrels per day.

The Link-Belt Machinery Co. of Chicago, Ill., have recently filled orders from grain dealers as follows: Funk & Co., Galva, Kan., an elevator; Shepherd & Denniston, Rochester, Ind., an elevator; Silliman & Howard, Holstein, Iowa, two elevators; D. E. Paulina, Paulina, Iowa, elevator outfit; Myers & Shafer, Canal Dover, Ohio, an elevator; S. W. Arbutnot, Dysart, Iowa, an elevator and a number of sprocket wheels and link-belt for the transmission of power. This firm have been using the link-belt for over seven years.

Receipts of grain of all kinds at Baltimore since Jan. 1, 1883, have averaged 542,780 bushels per week, and at New York the weekly average has been 1,312,000 bushels. The foreign exports since Jan. 1 from Baltimore were of wheat 14,191,011 bushels, and of corn 9,467,864 bushels; from New York, wheat 17,542,267 bushels, and corn 22,633,950 bushels. Total exports from the Atlantic ports, including Montreal, for ten months of 1883, were of wheat 43,815,867 bushels, and of corn 53,004,196 bushels. Of the aggregate of wheat ex-

ported, 40 per cent. was from New York, 32 1-3 per cent. from Baltimore, and 27 2-3 per cent. from all other ports; and of corn exported same period 42.70 per cent. was from New York; 17.86 from Baltimore, and 39.44 per cent. from all other ports.—*Baltimore Journal of Commerce.*

The Harrison Conveyor Co., Chicago, Ill., have recently filled orders as follows: Bowman & Hard, Atlantic, Iowa, 60 feet; Wamego Mill and Elevator Co., Wamego, Kan., 50 feet; Wm. Linden, Odell, Neb., 75 feet; T. O. Suenell, Chicago, Ill., for flax seed, 800 feet; E. A. Hedge, Salem, N. C., for cotton seed, 80 feet; Mutschler & Essmuller, St. Louis, Mo., 360 feet; Robt. Davis, Toronto, Canada, for wet malt, 80 feet; Chas. Kaestner & Co., Chicago, Ill., for ear corn, 166 feet; Caywood & Co., Vinney, Kan., 75 feet; Illinois Leather Co., Chicago, Ill., to carry wet hair to dry kiln, 288 feet.

The Elevator Co. at Midland, Ont., has completed its system of fire protection. The work of setting up the powerful pump and laying the pipe was completed under the supervision of Mr. Thomas Allison, foreman for Northey & Co., of the city of Toronto, and a trial took place. After the hose had been laid and the men at the branch were in position, the work proved satisfactory to all but the branchmen, who were knocked about the dock and badly bruised. The pump is of Northey & Co.'s manufacture, No. 14, and is capable of throwing 30,000 gallons of water per hour. The whole system complete cost the company \$1,500, and it will afford the fullest protection to the elevator, wharf and vessels. A night watchman is always at the elevator, and as steam will be kept up continually during dry weather, a flow of water can be obtained in one minute and a half. Mr. Peplow, the manager, has taken great pains to have the hose so distributed that in case of fire the full benefit of this admirable system of water-works will be secured.

The Westinghouse Machine Company of Pittsburgh report a remarkable activity in the demand for their Automatic Engine. During the month of October they manufactured and shipped a total of seventy-three engines, representing a product of nearly \$50,000. Their new orders during the same month aggregated over 2,000 horse-power. Among the prominent orders were The Phil. & Reading Coal & Iron Co. one 80 H. P., one 65 H. P., two 50 H. P., and one 40 H. P.; The New York & Brooklyn Electric Light Co. four engines of 50 H. P. each; The Arnoux Electric Light Co., of Cleveland, two of 65 H. P.; The Brush Electric Light & Power Co., of Savannah, two of 50 H. P.; The Butte Electric Light Co., Butte, Montana, two of 50 H. P.; The Brush-Swan Electric Light Co., of Cheyenne, 65 H. P.; The Brush Electric Light Co., of Buffalo, 50 H. P.; The Electric Light Co. of Decatur, Ill., 50 H. P. In general manufacture they mention the Arthurs Coal & Lumber Co., Hemlock, Pa., 125 H. P.; Miller, Dubrul & Peters Mfg. Co., Cincinnati, 80 H. P.; The Pacific Rolling Mill Co., San Francisco, Cal., 65 H. P.; E. Stinson & Co., Baltimore, Md., Wheel Factory, 50 H. P.; McKinney Mfg. Co., Allegheny City, 50 H. P.; Wm. Broadhead & Sons, Jamestown, N. Y., Worsted Mills, 30 H. P.; The Senghi Woolen Mills, Yokohama, Japan, 20 H. P.; and about thirty others of various sizes from 10 to 50 H. P. If it is true that activity in the engine business is a sure index of a general activity in manufactures, there is very little in the above to encourage a pessimistic view of the situation.

ANOTHER B. & O. ELEVATOR.

The Baltimore & Ohio Railroad Company have completed and opened for business their new elevator at Camden Station (this city). Its storage capacity is 260,000 bushels, and it has been constructed with special reference to the accommodation of the local trade in oats and other small grain. The rates for storage will be the same as at Locust Point, viz: One and a quarter (1¼) cents per bushel for the first ten days, and ¾ of a cent per bushel for each succeeding ten days or parts thereof. We feel assured that this elevator will prove of great advantage, especially to shippers of oats to our market per the Baltimore & Ohio Road, and will also greatly facilitate the business both of receivers and buyers. Our market for the need of proper storage has always been of much uncertainty to shippers with respect to oats, which had to be placed from the track on arrival, and when there were any overplus of cars reported the dealers, as a general thing, were stocked, and the market would invariably drop, and as suddenly recover when the track was clear.

With the storage now offered by this elevator, the wide fluctuations and irregularities of our market will, in a great measure, be corrected, and more steadiness in prices experienced, which will give more confidence to Western shippers, and our trade in oats, rye, and barley doubtless be much enlarged. With available stocks of such products, orders which previously could not be filled will be drawn to our market, and we anticipate such good results from this pioneer local elevator that it will not be long before the Northern Central Railway Company will see the necessity of constructing one for the accommodation of similar traffic over their road.—*Baltimore Journal of Commerce.*

Mr. Sacre, engineer, of West Kirby, near Liverpool, Eng., has patented a floating elevator for loading and discharging steam and sailing ships. It is capable of taking on board or delivering on the quay 100 tons of grain per hour. It is adjusted for work in less than half an hour. When required it can be shipped for use abroad

Notes from the Exchanges.

The New Orleans Produce Exchange has added rice to the commodities dealt in by the members of the organization.

The cashier of the Produce Exchange Bank of New York recently made a successful experiment of the proposed clearing-house system for grain contracts. The contracts cleared for various parties represented 12,000,000 bushels of wheat, and the clearances were made in less than ten minutes.

A clearing-house system has been formed by some of the prominent members of the New York Produce Exchange. The system, similar to the bank plan, was originated by Mr. H. Osterberg who will be the manager. The following are the names of the present management: George C. Martin, Henry T. Kneeland, J. M. Fuller, J. H. Herrick, J. E. Hulshizer, S. Jacoby, George B. Cooksey, Anderson Fowler, and W. D. Miles.

Taylor & Lutton, members of the Chicago Board of Trade, suspended business on Oct. 21, being unable to meet the call for margins on wheat and lard, on which they were "long." The recent decline in the markets called on them for a payment of some \$55,000 which absorbed all their available cash. One of the partners estimates liabilities at about \$15,000, and he anticipates that they will soon be able to resume business if margins due them are promptly paid.

There were two suspensions on the Board of Trade on Nov. 8. Geo. H. Harlow, ex-Secretary of State, who failed a few months ago and had outstanding liabilities, bought 500,000 bushels more of wheat on Nov. 7. Being called on for margins he was "told to close out his trades," which he did at a great loss to his customers. He stated he was 600,000 bushels short, and that his loss was \$26,000, of which he had put up \$21,000 in margins, so that he had only \$5,000 to make good. Mr. Harlow, who is doing a commission business, is settling up as rapidly as possible. John B. M. Liverners, who also suspended, was speculating on his own account. He said that he was caught on the rise of the market, and that his liabilities, scattered over the Board of Trade, were about \$15,000.

Thos. Wight, one of the oldest members of the Chicago Board of Trade, is credited with being the father of a plan for mutual insurance by the Board. The plan circulated proposes that the Directors adopt a rule enforcing an immediate assessment of \$5 upon each member for the creation of an insurance fund; and that in case of the death of any member a like assessment shall be made and the fund thus obtained be paid at once to the legal representatives of the deceased. These payments to be enforced by the same rules of discipline as the annual dues. The petition recommends that this fund be exempt from all claims except legal assignments to be filed with the Secretary ten days after the death of the member entitled to the fund. It is claimed that this would give a cheap insurance free from the disadvantages of the Tontine plan, as there could be no dissolution of the bond or failures to pay assessment as in the case often of voluntary associations.

The Milwaukee grain shippers, in spite of the denial of Mr. Carpenter, General Ticket and Passenger Agent for the C. M. & St. P. Railroad, still complain of freight rate discriminations in favor of Chicago. An order, it is said, was issued by the above road, and also by the C. & N. W. Road, to the effect that all grades of wheat, oats and barley above No. 3 should be immediately put into elevators upon arrival. This order annuls the valuable privilege of side-tracking receiving-cars, which is permitted in Chicago, and enables dealers to obtain fuller value and a better price for their customers. This order, it is said, was issued when business was the largest, and has produced great indignation on the part of the Milwaukee grain receivers. The railway management deny that this was the object of the order, and Assistant General Manager Miller of the St. Paul Co. says that the order was issued with regret, on account of a deficiency in the number of cars, and will be only temporary.

The investigations into the "bucket shop" stealings of the Board of Trade market reports discovered on Oct. 19, by means of private detectives in the alley, the following facts: A young man standing in hearing of the Open Board Caller, communicates, by signs, to a confederate near the "shop," who records the reports on a sheet of paper and hands it to the operator, who takes it off on a wire leased of one of the telephone companies easily readjusted to the purpose. The detective ascertained that the Cosmopolitan and McHie's place were the only shops using these means, followed the clue given by Mr. Barclay of the Western Union to Hascom's place, the old Public Grain and Corn Exchange, No. 135 La Salle St., and arrested the operator, H. F. Burnett, on a warrant for charge of conspiracy, and took him before Justice Brayton, by whom the case was continued under a bond of \$1,000. The wire had been very ingeniously concealed, and its trail was entirely lost until the office table was torn loose, when it was found penetrating one of the table legs and running up into the instrument hidden in a drawer. A later report than the above shows that a similar plan had been successfully carried out by the Metropolitan Grain Exchange, one of the largest "bucket shops" in the Alley, and hitherto the most successful in beating the Board of Trade, and Telegraph Companies, in their attempts to prevent these concerns from using the "tickers" and obtaining the market reports. Aided by the same facilities, the detectives discovered that two

men employed by the above Exchange had utilized a number of so-called "dead wires," erected some years since by an opposition telegraphic or telephonic enterprise, for the use of the fire department, connected with the Stock Yards. These wires were carried into the Exchange, a repeater being used to repeat back automatically the Stock Yards reports, etc., an additional battery being also used to neutralize the increased resistance. By employing first-class operators no breaks were made by the false circuits. Arrests were made of C. F. Van Winkle and Wm. Alcorn, who were also brought before Justice Brayton, and admitted to bail in the sum of \$1,000 each, which was given by H. B. Peabody, proprietor of the Exchange. A rehearing of these cases was had before Justice Lyon on Nov. 10, when evidence was produced from the telegraph offices and others confirming the above facts. Alcorn, it appeared, was employed by Van Winkle at the Yards, and Prof. C. J. Bartlett, "the wire chief," said that he had some difficulty in getting into his office, and that he found the telegraphic wires running through the table legs connected with the telephonic wire, indicating that they were being used for telegraphic purposes. The case was again adjourned. After these arrests the Metropolitan bucket shop posted a notice on Oct. 18 that they would make no more new trades with city grain dealers, and that after the 20th, when they would have closed up all such accounts, they would deal only in stocks. As the Board of Trade has no control over the New York stock reports, the speculators of the Alley will still find an ample field for the use of their talents, in "doing" country victims, *et. al.*

Items from Abroad.

Russia continues a large shipper of grain.

Difficulties in the French grain trade are reported, on account of depression in prices in that trade.

A new grain elevator has just been completed at Vienna, Austria. It has a capacity of over 200,000 bushels.

The collective amount of the world's imports and exports of cereals of late years has reached the enormous sum of 1,520,000,000 bushels.

It is reported that the new Spanish Premier is in favor of a treaty of commerce with England, and of the suppression of the duties on grain.

The steamer Amariyllis, from Baltimore, Md., discharged a cargo of 80,000 bushels in sixteen hours at Avonmouth Dock, Eng., recently.

The official estimate of the wheat crop of France is 100,646,000 hectoliters. This is twenty-one hectoliters below last year's figures. The commercial estimate places the figures lower.

Algiers has, until recently, been of no importance in grain exportation. But of late French capitalists have devoted their attention to bringing her waste lands under cultivation and a large increase of grain for export is anticipated.

The banks of Liverpool, having been increasing their advances to grain speculators, find themselves loaded down with wheat, which can only be sold at a loss. Ten or more large firms have been rendered insolvent, and failures are expected to occur until Christmas.

The harbor-master at Antwerp, Belgium, recently forbade the working of a floating elevator dispatched by the London Patent Elevator Company, and caused it to be removed to the entrance of the small dock. He considered it dangerous. The town of Antwerp is negotiating with a company formed for the purpose of establishing fixed elevators, with stores adjacent.

The import demand of wheat of Great Britain is steadily increasing from year to year, and is due to the three following causes: The large annual increase of population; the increased per capita consumption of bread, and owing to unremunerative prices, the annual reduction of wheat acreage, which is turned to pasturage. Wheat, the preponderating cereal imported into England, averaged in the years from 1875 to 1880 a demand for 120,000,000 bushels.

Russia, until 1877, was an important competing country in supplying the world's markets. But of late, the political disturbances there and in the Balkans have lowered her position, and she cannot now compete with America in the world's grain markets. The same ultimate condition is the case with Austro-Hungary, an agricultural land and fertile soil, with a moderately dense population that enabled her for a long time to take rank among the grain-exporting countries.

Until within a few years rice was the main export grain production of British India. England's attention of late has been strongly directed to that point with large expectations, hoping that in a few years India will be able to export some 300,000,000 bushels of wheat annually equal to that of Russia or America. The exports of India from 800,000 bushels of wheat in 1871-72 reached in ten years 32,000,000 bushels, about 85 per cent. of which went to Great Britain, and the remainder to France, Belgium, and Italy.

Grain laden steamers running from the Black Sea and the Sea of Azof, passing through the Straits of Yeinkale, have been run aground with great regularity, occasioning considerable damage to cargo and causing the underwriters great loss. Mr. Sutton, a gentleman representing the English underwriters, has placed three men under arrest for purposely running the vessels aground.

Within three months no less than sixty steamers were grounded, nearly all in calm weather. Mr. Sutton's investigations have put an end to these proceedings.

A recent rumor that 300 vessels had been chartered to load with wheat at the Black Sea ports is offset by the following statement: The capacity of the vessels engaged in the Black Sea trade is said to average 6,000 quarters, or a total of 1,800,000 quarters, equal to 14,400,000. The average exports of wheat from Black Sea ports are about 24,000,000, so that the tonnage reported to be chartered would take out in three months one-half the yearly exports. As the Russian wheat crop is reported to be 54,000,000 short of an average, where is the wheat coming from to fill these vessels?

The *Millers' Gazette and Corn Trade Journal*, of London, Eng., has the following: "Reports of the magnitude of present difficulties in the corn and produce trades seems to be exaggerated. There is no doubt whatever that vast amounts have been lost since the beginning of the year in London and Liverpool through the simple depreciation of the value of stocks of produce. The losses are, however, widely distributed, and have not been wholly without compensation in ordinary trading. In Newcastle several failures have been announced in the grain trade, the aggregate liabilities being about £400,000."

Mr. Garland in a recent letter from Australia to the *Chicago Tribune*, speaks of the increasing value of the wheat production of these colonies. From being buyers of flour a few years since, Australia now raises 50,000,000 bushels of wheat annually with a surplus for exportation. Self binders, drills and other agricultural machinery are liberally used, and while the sparsity of the population prevents at present a commensurate production, her special adaptation to grain growing with a small amount of labor, will rapidly swell the aggregate product, faster than her population can absorb, and thus the European markets will find another center of wheat-growing to meet their own deficiencies. The writer says: "The effect of wheat production in India as well as here in Australia is worthy the study of our (American) economists."

Antwerp, the development of which city has of late obtained very large dimensions, and which counts among the first ports on the German ocean, has, as is well known, also a very important grain trade which is in no way inferior to that of Rotterdam. It imports in large quantities grain from all parts of the world, especially America, India and Russia, supplying also the large country lying behind it. By the great harbor works, projected by the Belgian government, and executed in grand style, there is no more hindrance to the trade; on the contrary a large improvement is the result. Among other facilities to the grain trade it has been resolved to procure the so-called floating elevators, one of which has lately arrived; the same, imposing by its size, is provided with the newest arrangements for loading and discharging the largest sea-going vessels; therefore it will be of the greatest importance to the grain trade. The elevator is 120 feet long, 32 feet broad, constructed entirely of iron, and, for safety, provided with four water-tight compartments. As regards the machinery, besides the steam engines fore and aft of the vessel, the fire pumps on the elevator are noteworthy. The capacity of this elevator is 150 tons of grain per hour. Before discharging or loading a vessel the grain is first weighed by a special contrivance. The best measures have been taken to get the grain from the vessel to the quay and vice versa as quickly and automatically as possible. Besides the advantage to the trade by this new contrivance, on the other hand the available water and railways assure the capacity of the port to provide the country behind it with its wants of cereals.—O. U. *Mullerzeitung*.

A WAREHOUSE ON THE "BIG MUDDY."

The writer, years ago, lived at Nemaha City. The town is built on the bluffs, and at the time we went there the river was fully three miles away. Steamboats were thick in those days, and did a thriving business. A man named Hoover had built a warehouse on the river bank, and bought and shipped corn. Unlike most buildings of a like character, however, this one was built on rollers, and a windlass, ropes and a heavy tackle provided for moving it. Hoover had lived on the river long enough to know that he might decide to change the location of his building, and so was prepared when the stream began to cut in toward the bluffs on the Nebraska side. With a good telescope he kept close watch of the river and when necessary a gang of men and teams would be sent out and the warehouse would be hauled back from the bank a hundred yards. Occasionally the muddy monster would steal a march on him, and he would discover, on getting up in the morning, that the east end of his warehouse was hanging over the murky waters. Then the race of the men and horses to the river would be a very exciting one, and groups of sports would stand on the bluffs and bet on the result. Hoover managed to always get there in time, however, and inside of a year was nestling lovingly at the foot of the bluffs, and a man could step out of the front door into forty feet of water. Thousands upon thousands of acres of the most fertile land in the world, lying between that town and Brownville disappeared—farms, crops, orchards and timber—to reappear on the Iowa side in barren banks of clay and sand.—Peck's *Sun*.

The shareholders of the Canada Pacific have authorized the directors to lease other roads.

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ADVERTISING.

This paper has a large circulation among the elevator men and grain dealers of the country, and is the best medium in the United States for reaching this trade. Advertising rates made known upon application.

CORRESPONDENCE.

We solicit correspondence upon all topics of interest connected with the handling of grain or cognate subjects.

WHEAT LANDS IN THE NORTH-WEST.

The new wheat region in the northwest corner of the United States, just fairly opened up by the completion of the Northern Pacific Railroad, is said not to be equaled in the world. The region referred to covers about 13,000,000 acres of land in the eastern portion of Washington Territory and Oregon, including a small portion of Western Idaho. As the highest point of wheat culture east of the Rockies gradually extended from the Atlantic to the far Northwest, so that of the Pacific slope has gone to meet its advance in the Northeast. On this section, containing ten million acres of arable land, and an inclosed large and fertile reservation for only some 700 Umatilla Indians, there were grown last year some 7,000,000 bushels of wheat, with a production of from 25 to 60, and an average of 30 bushels per acre. This, too, was in a season of prolonged drouth. The available lands have already been largely taken up, and wheat farms are valued at from \$20 to \$30 per acre. The face of the country is pleasantly diversified with valley and hill, and grain-growers there, it is said, have nine months for seeding, and from four to six months for harvest. The expense of raising wheat, a crop never known to fail, is placed at 25 cents per bushel, which will always command at least 60 cents. The Northern Pacific has already opened numerous railway connections through this region, and will open others as rapidly as required. With American enterprise, agricultural machinery, and skill, the injurious effects of oriental competition in supplying the world's wheat markets seems to be a far distant danger.

THE ILLINOIS CANAL.

In a communication to the press from LaSalle, Ill., there is a plea made for the canal, with the statement that it has not yet lost its usefulness. The writer admits that the Chicago valuation of it, as an outlet to its sewage, is not an exhilarating one, while the residents along its banks are indignant at the offensive effluvia of the matter that is pumped out of Chicago into "the ditch," bringing to their outraged olfactory the most malodorous perfumes. There is, he admits, a certain appearance of decline in its prosperity in the large diminution of the number of boats employed, and the great decrease in the value of tolls since their highest amounts, seventeen years ago. But an analysis of the facts and figures shows that in reality its prosperity has not declined.

In 1848, the year the canal was opened to navigation, the value of the tolls aggregated \$89,000. In six years they had reached nearly \$200,000, and, with some fluctuations, they attained the highest point in value, in 1866, viz: \$302,598.

Since then the toll rates have been diminished, until in 1882 the aggregate receipts were \$3,000 less than in the opening year. But the offset to this is, that the freights have steadily increased. The tonnage of 1866, the year of the largest receipts, was about 747,000 tons, carried by 230 boats; but in 1882, with some vacillations, it had reached a tonnage of over a million, and, it is stated, will this year considerably exceed that amount. It is to the great advantage of canal shippers that, owing to many causes the toll rates have declined about 400 per cent. from those of the first year. While the tonnage has increased, the number of boats employed have greatly decreased, and from 220 in 1866, had fallen to 132 in 1882. Of the latter twenty-three were steam canal boats, and seven were tugs. In the maximum year the clearances were 5,488, and the number of miles run 406,781, while in 1882, with a large increase of freight, the clearances were 4,055, and the number of miles run 406,781. In other words, a boat now carries about two and a half times as much freight, at one-fourth the cost, that it did in 1866. In place of the 700 horses that then tramped over the tow-path there are now scarcely a dozen teams; nearly all have been replaced by steam. The old-time fashionable passenger carriage has been given over to the railroads, to which this business has been forever consigned. "The canal," says the writer, "has not declined, but simply undergone the elimination of its antiquarian features. Traffic is not now, as formerly, of general merchandise, but runs largely to specialties." Of the freight transported last year there was about 4,000,000 bushels of grain. Only in the mental vision of railroad men has the canal outlived its usefulness.

DULUTH AND BUFFALO.

Mr. Richmond, President of the Buffalo Board of Trade, who was also with the Villard party in its recent Pacific trip, in a speech some time since before the Board, said that the Northern Pacific Co. would undoubtedly put a line of steamers upon the lakes to be operated in connection with their roads, and that by this competition with the all-rail freight routes the advantages would be in favor of Buffalo and Rochester, as the prominent centers of the wheat trade of the Northwest. This prediction as to the steamers is in effect an accomplished fact, the Villard management having purchased an interest in a line of steamers that will next year run from Duluth to Buffalo in connection with the road. Duluth fully appreciates the value to her trade of this enterprise, and claims that the "Zenith City" will become the "Chicago of the Northwest." The press of the former city satirizes the noise, with flags and bunting, with which St. Paul regaled the Villard party, and says that cheap transportation regulates the course of trade, and that an inland city like St. Paul could not be the terminus of a road such as the Northern Pacific. "Products will seek the cheapest route, and Duluth is as near to the Eastern markets as Chicago." The new gateway of this new enterprise, Duluth claims she has now become. "The forces of nature," says her spokesman, "are working, and they are all combined to make Duluth the greatest city in the Northwest."

THE INDICTMENT OF THE "CLUB" AND "FUND" SWINDLERS.

The Grand Jury of the United States Criminal Court reported the results of their work to Judge Blodgett on Oct. 30. Among the indictments handed in by the foreman, H. W. Kerry, appear some names of swindlers familiar to the grain trade. Frank L. Loring and John Flemming were indicted for pretending, under the style of Flemming & Merriam, to be commission merchants, and to be the managers of an association fund called "Mutual Co-operative Fund W." for trading and speculating in grain, etc.; and that they had devised fraudulent schemes to procure money from divers persons to invest in such pretended association; and that they had converted such funds to their own use, defrauding these second persons, using the postoffice among other means. A

similar indictment was found against Wm. W. Miller; and Frank L. Loring, Chas. G. Bennett and W. F. Holtzman were similarly indicted for pretending to be brokers and commission merchants under the style of Bennett, Holtzman & Co., and to be managers of the funds of an association styled "The Mutual Cooperative Club," fraudulently, as in the above case, obtaining and using money intrusted to them for investment.

BRITISH WHEAT REQUIREMENTS.

The factors in the problem of the price of wheat in the immediate future under the control of the present supply, are of the utmost importance. By many this control is supposed to lie with the Western speculators and farmers, who think the present market prices are below the intrinsic value. But undoubtedly the main element which fixes the final practical solution is in the requirements of the United Kingdom. As the estimates of these have been very diverse, the New York *Produce Exchange Reporter* has endeavored to arrive at the true one, as far as practicable, by their careful comparison. Although a deficient harvest has occurred this year both in Europe and America, large stocks of foreign wheat have been piled up at British and Continental ports. Comparing their present required imports as estimated by *The Miller*, London; *Beerbohm's*, Sir J. B. Lawes and the N. Y. *Produce Exchange Weekly*, they are 128½, 120, 100 and 145 million bus. respectively. Sir J. B. Lawes, whose estimate, as above, is the lowest, who is regarded as high English authority on these matters, in his recently published annual estimates says that the British wheat crop of the current year will render a full average twenty-eight bushels per acre, if not more. The amount required for food by the 36,000,000 population, at 5.65 bushels per capita, will be about 203,000,000 bushels. Estimating the total yield by the average, with deductions for seed, he states that there will remain an available crop for food of 70,000,000 bushels. Last year, Mr. Lawes says, the foreign importation of wheat exceeded considerably the actual requirements, leaving, after deducting exports, a balance, as he estimates, of some 32,000,000 bushels. Putting the balance required at about 100,000,000 bushels, which was the September estimate of the *Reporter*.

These estimates of requirements during the current cereal year presuppose an aggregate reserve of foreign wheat and flour such as was held two years ago, which amounted to about 12,000,000 bushels, fully as much as the average of several years. The estimates do not render certain how much the British will buy, a matter that no one can intelligently calculate. Since Aug. 31 the reports show that the British wheat delivery from all sources, made to all classes requiring it, have further added to the accumulation of last year, aggregating a reserve on Sept. 1 of 44,000,000 bushels, to which may be added 4,000,000 for the additions up to Nov. 2, making an aggregate of 48,000,000, exclusive of the "invisible reserve" held by millers and bakers. The closing of the Black Sea and Baltic ports, and the smaller shipments from India, etc., the *Reporter* says, will probably trench somewhat on these reserves during the winter and spring. But adding to these the 30,000,000 "visible supply" on this side, and the large floating bulk under its control, the British market cannot reasonably be expected for a long time to aid in advancing prices. "And still, under these conditions, the West is to put up the world's markets. All the *Reporter* can say, is that she has a very big job on her hands."

The suit of Calvin Morgan vs. S. S. Bell et al. was decided in the Chancery Court at Memphis, Tenn., on Nov. 8, in favor of complainant, decreeing to the latter \$3,340 damages. This suit, instituted some months since, during the existence of the Tennessee Brokerage Association, to recover money lost by the complainant by dealing in wheat futures with this Association, had been appealed by the defendants to the Supreme Court of the State.

Editorial Mention.

THE weather is getting cold for Chicago bucket shops.

D. N. DUNLAP, of Fontanelle, Iowa, in subscribing, writes us: "I like your paper and could not afford to do without it."

MOST all the houses in the West are in pretty good shape to take care of the corn. A good deal of fixing up has been done the past season.

THE well-known firm of Buchanan & Co., flour and grain commission merchants, Cincinnati, Ohio, have sold their business to Silverson & Koss.

THE reports of "frosted wheat" in Manitoba are alleged to have been grossly exaggerated by millers and buyers for the purpose of bearing the market.

ALLAN A. DALE, agent for the Northwestern Elevator Co. at Minto, Dak., in subscribing, says: "No elevator agent should be without your valuable paper."

PATRICK EGAN, the ex-treasurer of the Land League, has taken out naturalization papers, and will engage in the grain business in several towns in Southern Nebraska.

MESSES. JOHNSON & FIELD, Racine, Wis., send us a list of recent sales of their Dustless Separator and say that all of those sold seem to be giving splendid satisfaction.

THE *Northwestern Miller* profanely intimates that the place expurgated from the revised edition will be frozen over before Duluth takes the hard wheat trade away from Minneapolis.

THE first shipment of Oregon wheat over the lakes was a consignment sent to Duluth over the Northern Pacific last month. It was shipped at Duluth by the steamer Quebec, for Eastern points.

THE Secretary of Illinois issued a license on Nov. 14 to incorporate, to the National Elevator & Dock Co. of Chicago. Capital stock, \$500,000; incorporators, Henry Nelson, C. B. Eggleston, Alfred Skinner.

A LIGHT, durable and cheap roofing and sheathing is made by the Bodine Roofing Co. of Mansfield, Ohio, and advertised in this issue. They will be pleased to send elevator men and others prices and samples on application.

THE Lake Superior Elevator Co., has decided to erect another elevator at Duluth, Minn., with a capacity of 1,100,000 bushels directly west of elevator C. Work on the foundation walls will soon be commenced and the building completed in time to handle the crop of 1884.

FARMERS in Dakota are complaining that the grain buyers are grading the wheat down to a point where they cannot afford to sell; and in consequence those of them that are able are holding back their grain. The grain buyers tell another and a different story, however, and claim that the wheat is so full of smut that they can not grade it up. The farmer is most always an unreasonable "critter."

AT last John Flemming, of Flemming & Merriam, has been gathered in. He was found in Bismarck, Dak., by Postoffice Inspector Ray. He has been a wanderer since last January and has seen the inside of several Canadian jails in the meanwhile. It is to be hoped that he will make the acquaintance of the gentlemanly wardens at Joliet before many weeks. If Flemming & Merriam's victims could only sit as jurors, he would be sent up for life.

THE HOWE PATTERN MFG. Co., of Detroit, who advertised Howe's Challenge Sample Mail Envelope in our last issue, wrote a few days after the appearance of the paper that they had already had proof of the value of the AMERICAN ELEVATOR AND GRAIN TRADE as an advertising medium.

THERE was but little "frosted" wheat in Minnesota after all. It is claimed that Minneapolis millers raised the cry simply because they found wheat coming in on them faster than they could take care of it. In four days the first week in October, they paid out over a million dollars for wheat.

CALLAHAN & SONS, proprietors of the Central Elevator at Louisville, Ky., write us: "We are very much pleased with your paper and think it is just what the milling and grain trade need. We are pleased to notice the free, full and fair discussion on all subjects presented, especially on grain gambling, which we think is doing more general harm to the country than anything we have noticed."

AN advertisement of the New York Slate Roofing Co., of Philadelphia, in this issue, offers to the public Glines' Rubber Roofing and Slate Roofing Paint. The advantages of these goods are fully set forth in the manufacturers' card. The demand for these goods is very large, both in the United States and Canada. They will send samples and a book of 100 pages free to any one stating where they saw this advertisement.

USERS of steam power who want something to clean their boilers (and nearly every boiler needs it at frequent intervals) should correspond with the Ohio Valley Boiler Cleaning Co., 72 West Third St., Cincinnati. This compound is guaranteed to be free from any ingredient injurious to the iron, and with the second order they give the recipe, with shop right. The secretary, Ben. E. Harris, will send free, on application, a treatise on boilers and steam matters.

GOV. HAMILTON, of Illinois, has transmitted to President Arthur a certified copy of the act of the General Assembly of Illinois of April 28, 1882, ceding the Illinois & Michigan Canal to the United States, together with the proclamation of Gov. Cullom promulgating the vote of the people thereon. Gov. Hamilton requests President Arthur to transmit the act and proclamation to the Congress of the United States, with such recommendation as may be appropriate in view of the great importance of the question involved in the proposed cession.

THE Grain Committee of the Cincinnati Chamber of Commerce seem to have made recently a "costly blunder," and are unsatisfactorily facing the question of responsibility. Nelson, Perin & Co., of Cincinnati, Ohio, lately purchased a large lot of Kansas wheat to sell to Cincinnati millers for October delivery, which the Grain Committee, being requested to grade, pronounced No. 2 red, for which the wheat was sold. On its delivery the millers found that it would not grade No. 2, and refused to take it. The Committee, on re-examination, agreed with the millers and declared it to be Turkish red. This change of grade reduced its value, and the question now is, upon whom is the loss of \$3000 to fall? At last accounts no conclusion had been reached.

THE Dominion Millers' Association, a large and influential body, have made an attack upon the protective tariff in its relation to wheat, a matter of some note, as the millers of Canada have been heretofore strong advocates of the protective system. The wheat crop, however, of Ontario, falls far short this year of their requirements, and they are unable to obtain from it a sufficient quantity of wheat to keep their mills running. At a meeting of the Association, held at Toronto on Nov. 6, the millers were unanimously of the opinion that wheat imports for flouring purposes were essential, and were also positive that the present tariff of fifteen cents per bushel on wheat

caused a discrimination against Dominion millers of twenty cents per barrel of flour. Two propositions were before the meeting: Either to reduce the duty on wheat one-half, or to increase the duty on flour. In view of the needs of the laboring classes, the majority favored the former plan, and a committee was appointed to wait upon the Finance Minister and urge upon him the necessity of reducing the duty on wheat to seven and one-half cents per bushel.

AT the meeting of the Illinois Railroad and Warehouse Commissioners, held at Springfield, Nov. 14, the report of Frank Drake, Chief Grain Inspector at Chicago, showed that during October there had been inspected 27,785 cars of grain received by rail, a gain of 9,596 cars over October, 1882, and 556,500 bushels of grain by canal and lake, a gain of 93,787 bushels over the corresponding month last year. The shipments for October aggregated 8,729,701 bushels, an increase of 2,154,482 bushels over October, 1882. The receipts from Nov. 1, 1882, to Oct. 31, 1883, were 235,231 cars, an increase of 64,001 cars over the preceding year. This increase in grain receipts shows an increase of receipts for October of \$3,913 over the same month last year.

A LETTER has been received by the New York Railroad Commissioners from Chauncey M. Depew, of the New York Central, and G. R. Blanchard, of the Erie Railroad, in regard to their refusal to comply with the recommendation to abolish elevator charges. This could not be done without an arrangement with the Baltimore & Ohio and Pennsylvania Roads, unless the commerce of the port was seriously injured. Charges at Philadelphia, Baltimore, Boston and Montreal compelled them to lighter the grain at an expense of three-quarters cent a bushel and subject grain to one cent a bushel additional charged by the floating elevator. They hoped to be able to bring about some adjustment which would be equitable and satisfactory to all, but it had been impossible as yet to accomplish this result.

MR. EDWARD ATKINSON, of Boston, Mass., in the interests of domestic economy, has published the results of his investigations on the cost of a loaf of bread, obtained from the bakers of that city, made from the Iowa or Dakota wheat. He estimates the various items of cost as follows: The Dakota farmer receives \$3 for the grain in a barrel of flour; to this is to be added for grinding 50 cents; barrel, 45 cents, freight, commissions, etc., \$2.27½, making a total cost of \$6.82½ to the baker, or 3½ cents per pound for his flour. To this the baker adds yeast, heat, and labor, to the value of \$4.10, making an aggregate cost of the flour made into bread of \$10.92½. From these 196 pounds of flour the baker makes some 280 one-pound loaves, thus costing him 4 9-10 cents per loaf, which he retails at 7 cents. It is seen by the above that the Western farmer and railroad companies receive only 3-10 or 30 per cent. of the price paid for the loaf.

A CORRESPONDENT of the *Toronto Globe*, at Winnipeg, Man., states that all is not serene in the relations of that point with the Canadian Pacific Road. The latter company have been most liberally dealt with by the city, which gave them a bonus of \$200,000, free station ground, the exclusive use of Point Douglas Avenue for a track, and the use of the Southwestern Railway bridge, built by the city at a cost of \$50,000, for the nominal sum of \$100 per month, which, now that the latter road has been absorbed, goes as a free gift. In return, this company, says the writer, are trying to ruin the best interests of the city by rendering it entirely useless as a point for handling and storing grain. In connection with an attempt made last summer to build elevators, Mr. Van Horne, General Manager of the C. P. R., informed the Board of Trade that they might as well sink their money in the river, as the road intended to make Port Arthur the shipping point for the grain of the Northwest. If grain were stored then, it might, he said, go to Duluth by some other American route, to the seaboard. The

detriment of this course to the grain trade of Winnipeg is obvious, ruining its grain trade until the Hudson Bay Railway is built, to which this will now be an immense stimulus.

THE CONDITION OF CORN.

The Cincinnati *Price Current* has received, in reply to inquiries as to the amount and quality of the corn crop in the eight principal corn-growing states, 300 special returns, from which the following statements are taken: The aggregate yield in Illinois is about 75 per cent. of a good crop. While there is much of good quality in the central and northern parts of the state, a considerable portion is immature, and not merchantable. Iowa has about two-thirds of a good crop, but the majority of it is represented as of poor quality. Missouri has a yield but little less than a full crop, mostly of excellent quality. The latter condition is also the case with the Kansas corn crop, which is the largest ever grown there. Tennessee has an average production of good quality. Kentucky has a crop a little below the average, variable in quality, but generally pretty good. Ohio's corn crop is less than two-thirds of a full yield, the smallest for several years, and generally poor in quality. Indiana has a fair crop in amount, variable in quality, much of it being soft and poor.

The supplies of old corn were fair in many sections, but the returns were not sufficiently full for a general estimate. With the states mentioned, taking the returns from Michigan, Wisconsin, Minnesota and Nebraska, their aggregate corn crop this season is about the same as last. The late wet weather has disappointed largely the expectation that the frosts would hasten the corn into a marketable condition, but with the large reserve of old corn, the resources of the country in this grain are now larger than a year ago.

THE CANAL IMPROVEMENT.

At their recent meeting in this city the Hennepin Canal Commissioners resolved to change the name of the route to that of the Michigan and Mississippi Canal. The Chicago *Tribune*, in commenting upon their action, speaks strongly in favor of this change, as indicating more correctly the national character of the work, which, under the former name, seemed to be local. As an important supplement to the recommendations of the Commission, the *Tribune* urges the importance of such improvements of the Upper Mississippi as will render it an available waterway for barges during the whole period of canal navigation. This will require an increased supply of water from midsummer until the winter ice blockade; and for this purpose it is believed, by those who have given the subject the closest study, that the reservoir plan is entirely adequate. This is essential to the nationalizing this project by opening a practicable waterway from the Upper Mississippi to the lakes. The railroads, with their return freight of merchandise, fuel, building material, and machinery, will always be able to successfully compete with canal traffic requiring partial railway transportation, and the breaking of bulk in freights.

It is also wisely urged that this project should be kept entirely distinct from that of the Mississippi River Improvement Commission. The latter is regarded as being far from a plan simply for the improvement of the navigation of the Mississippi, but mainly for reclaiming swamp lands along its course owned by private persons. The latter appeals to the Government to assume a burden of not less than \$200,000,000, while the Michigan and Mississippi Canal Commission desire an expenditure of not over \$10,000,000, including the enlargement of the Illinois and Michigan Canal, for the only needed link that will establish a through waterway between the West and Northwest to the East and the Atlantic seaboard.

SOME tall stories have recently been told by the New York papers about the bibulous habits of the members of the Stock Exchange in that city, it being asserted that some of them drank as

many as forty drinks of whiskey a day. The *Tribune* of this city has taken the trouble to investigate the drinking habits of members of the Chicago Board of Trade, and for that purpose interviewed the keeper of a saloon largely patronized by the "boys." The bar-keeper said: "Board of Trade men, during business hours, are the most temperate of men. They can't afford to be otherwise, and, moreover, they have no time to spend over a bar if they had the inclination. Talk about the excitement of their business driving them to drink deeply. That's a mistake. When the excitement is most intense on the floor you'll find every broker and dealer right there watching his money pour in or slip away, whichever the case may be. When the gong sounds and they come down stairs the excitement is over for an hour at least, and if they drink at that time it's nothing stronger than ale with their lunch. After business hours the boys like to enjoy themselves if the market has gone their way. But, as a rule, speculators in this city get all the excitement they want in their business, and very few have any such drinking habits at any time as are ascribed to the New York Stock Exchange boys by this story-teller."

INCREASING CONSUMPTION OF WHEAT.

That the annual per capita consumption of wheat in Europe and America has materially increased in late years, is now a pretty well established fact; but never before, probably, has the consumption been as great as in the past year. Relatively speaking, the difference in the value of the various staple articles of food in common use in this country and Europe is much the same. Of these, meats, wheaten bread and vegetables, constitute by far the greater portion, although in Central and Eastern Europe rye bread instead of wheaten is more generally used. Still, even in those countries, the tendency in recent years has been toward an increased consumption of wheaten bread to the exclusion of rye. And when the relative cost and nutritious qualities of wheat, rye, meats, poultry, dairy products and vegetables are contrasted, it will readily be seen that for several years past, at least, bread has been the most economical article of diet in general use in the household; and therefore that the consumption of it must have been very great. These same relative price conditions prevail to-day.

In our Southern States the per capita consumption of corn bread among the colored population has materially lessened since the war, and it is not easily understood why any one should compute the per capita consumption of the whole population at four bushels, when the statistics of the Government—the only guide we have—shows a very much greater ratio. According to the National Agricultural Department the annual number of acres cultivated to wheat from 1877 to 1881, both inclusive, was 35,615,050. Allowing $1\frac{1}{2}$ bushels per acre for seed would absorb 53,422,575 bushels. From June 30, 1877, to June 30, 1882, the annual average of the exports of wheat and flour equaled 145,274,736 bushels. The average import during same period was 974,500 bushels. These figures give an average of net imports and seed for the five years of 197,722,811 bushels, thus showing an average of 224,658,990 bushels retained for home consumption. The average population, using the census of 1870 and that of 1880 as a basis for calculation, was 48,737,499 for the five years under review. These figures show that the annual average quantity retained for consumption was equal to 4.61 bushels for each inhabitant. If the Agricultural Bureau estimate of one and three-eighths bushels per acre for seed is used, instead of one and a half bushels, as allowed by us, a little calculation will show the per capita consumption to have averaged 4.70 bushels during the past five years.

It is to be observed that the per capita consumption, as estimated above, rests upon the assumption that the reserves of old wheat were equal in quantity at the end of the five years covered by the figures, as they were at the beginning. But as they were remarkably small at the end of the five years (June 30, 1882)—smaller, probably, than at any corresponding date for twenty years—the per capita consumption during these five years no doubt exceeded by a small fraction the average indicated.

Now in face of the foregoing, it is rank nonsense for any one pretending to be a statistician to assert that the wheat consumption of the United States is only four bushels per capita, as has recently been done. The consumption during the past year has no doubt been fully five bushels per capita.—*Produce Exchange Reporter*.

BREAKING A CORNER.—In the early days of Michigan, says the *Wall Street News*, when one dealer was the source of supply for a large territory, a capitalist from the East bought up all the tobacco and whisky to be got hold of in the state. There was no railroad communication; it was winter, and there was no navigation, and everything promised a big profit on the speculation. Prices began to creep up, and settlers to inquire and protest, and the capitalist was rubbing his hands and

holding on, when something happened. He was on his way to church one Sunday when he was seized by a band of tough-looking pioneers, and carried to the river where a hole already had been cut in the ice.

"What is the meaning of this?" he finally asked. "It means old prices on whisky and terbacker!" replied the spokesman.

"How?" They proceeded to enlighten him. Two of the band gave him a duck into the water, and he was plunged in and out three times before he got his breath, and said: "Gentlemen, tobacco has taken a great drop!"

"Give him one more!" said the leader, and into the freezing cold water he went again. When they hauled him out, blue with cold, and teeth chattering, he observed: "And whisky is ten cents a gallon less than the old price!"

THE PRACTICE OF WHEAT "PLUGGING."

The wheat pluggers are about as plenty as the men who always get the best fruit on top of the box, the best hay on the outside of the load, and so on. You see, we spend millions of dollars every year to convert the heathen in foreign lands, while the heathen at home are cheating their neighbors out of their boots. The word plug has reference to a way dishonest countrymen have of cheating grain shippers. They load the bottom of a car with chaff or bran or low-grade grain, and put good grain on top of it, and, as it is sold by sample when it reaches its destination, and the receiver discovers the cheat, the shipper has to make good the loss.

Is there very much of this plugging done? It is still very common, but not nearly so much as it used to be. There is never a man sharp enough to invent a trick but there is another one sharp enough to detect it. We drop "onto" all their little games. And there are dozens, yes, hundreds of country shippers now who can't imagine how we inspectors see the bottom of a car without unloading it.

Well, it is somewhat mysterious; how is it? "You see this," said the dealer, unloosing a charm from his watch chain; "this is the instrument we use in miniature. By forcing this down through a car of grain and then drawing out the piston we have a vacuum into which, through holes in the side, the grain falls. This gives us a sample of the grain in every inch of the car to the bottom."

"And yet there are still people who will put bad grain on the bottom?"

"Yes, but the complaint is growing less. You see our orders are when we discover a plugged car to give it the lowest grade on our scale. That sickens them. Some time ago a man sent a car of grain in here with orders to ship it to St. Louis if it didn't grade so and so here. Upon inspection I found, perhaps, two wagon-loads of damaged wheat spread over the car about a foot from the top, so it was sent to St. Louis. The inspector passed it. A short time after I heard from the shipper. He said it was loaded just as I said it was, but he thought he would run the risk of its passing here or St. Louis."

"What are some of the other plans used to deceive the alert inspector?"

"Well, they will put damaged grain all around the edges, for instance, and put little layers here and there through the car. There is a chance of distributing a wagon-load of bad wheat through a car so that the inspector misses it, and, like the men above, they run the risk."

"What is the best trick, in your opinion, you ever discovered?"

"About the cutest thing I have seen, I believe, was this: Eastern shippers would fill sacks with bad wheat and distribute them about a car, standing them on the mouth of the sack, and fill up the car. When they got the sacks covered they would then pull them out, leaving the bad wheat standing in a column just the size of the sacks. You know an inspector might probe all day with his gauge without touching one of those pillars."

"Do you hope to break up the practice in time?"

"We can hardly hope to do that altogether, but we can keep the evil at its minimum, which is about what we are doing now."—*Kansas City Journal*.

SEVEN PLAGUES OF THE CORN CROP.

All the world's a crop,
And all the pests and insects merely humbugs;
They have their exits and their entrances,
And one pest in its time plays many parts,
Its acts being seven stages. At first the frost,
Nipping and killing all the tender buds,
Then the sudden rain storm, with its strong
And rushing eagerness, sweeping like a stream
Unfettered through the fields. And then the cyclone
Roaring like a furnace, with a shrieking wall,
Swoops down upon the grain. Then the beetle,
Full of strange sounds and wildly-clawing legs,
Jealous of rivals, sudden and quick in biting,
Seeking the gobbling inflation
Even in the cornfield's ears. Then the grasshopper,
Of expansive stomach, with good grain tops lined,
With eyes bulged out and wings of crooked cut,
Full of steel saws and modern improvements,
So he can play his part. The sixth stage shifts
Into the lean and slippery army worm.
With a most ravenous maw and appetite,
His wriggling shape well-shaved, a world too thin
For what he eats; and his big hungry mouth,
Turning again to pastures fresh and green bites,
And then crawls in the ground. Last scene of all,
That ends this strange and youthful history
Is old Jay Gould, who gaily gobbles up
The crops, the stocks, the lambs and everything.

BOARD OF TRADE MORALITY.

BY VAN BUREN DENSLOW IN NORTH AMERICAN REVIEW.

A familiar example of a corner in grain is seen when a clique of merchants have bought up so many of their fellow merchants' contracts for future delivery, and at the same time have gained control of so much of the grain actually in hand, that those who have made the contracts are unable to buy at the price stipulated when the grain is deliverable. A "squeeze" results, and the cornered merchants must pay to the clique the difference between the price named in the contract and the price current at the time prescribed for delivery. The sum thus paid, less the loss that may arise on the sale of the "cash grain" purchased while sustaining the corner, constitutes the profits of the corner. While the contracts were out, those who had issued them were interested in keeping prices down, and were "bearing" the market. Those who held the contracts would naturally "bull" the market. The former would spread before the public all evidences that the supply was in excess of the demand. The latter would labor to prove that demand exceeded supply. The rise in price incident to such a corner would have a natural tendency to cause an inflow, from the points of production, of large quantities of the article cornered, into the point of distribution, and to stop its export or shipment. Both these influences would swell the immediate supply, thus tending to "break" the corner, and send the price below the figure named in the contract. These influences would have to be counteracted by the "bulls" buying promptly all incoming grain, and all "futures" offered, to run down the market. This is the perpetual battle which determines the daily and hourly quotations of grain. The conflict of these rival hosts gives rise to the uproar and bedlam of the grain exchange. In the overflow of grain, or the abundant capital and confidence of the "bears," or the removal of some cause of scarcity, such as war, drouth, floods, bad seasons abroad, or other cause, break the corner, then the prices fall, the cornering clique lose, and pay the difference.

The merchants who have issued agreements to take wheat in future have "gone long," those who have issued the agreements to deliver, have "sold short." These futures bear a relation to the actual grain on hand, like that which a credit currency bears to the coin in which it is redeemable. They may be many times greater in quantity, and they can be dealt in with a rapidity and dexterity unknown in sales by inspection and delivery, or by sample. It is this tendency of the futures to an exaggerated volume that makes corners possible, just as the tendency of banks to inflation may, under certain circumstances, cause suspension of redemption.

"Options," "privileges," or puts and calls, cut a subordinate figure, and, in an economic sense, none whatever. They are the mere purchase of "refusals," as they would be styled in real estate and other trades. Since the legislatures and courts have condemned them, they have ceased in Chicago, except as after hours a dealer may for a small bonus buy the privilege of putting on another 10,000 bushels of October wheat, or *vice versa*, of calling on him for it, in which case it is a mere debt of honor to the close of the next day.

To prevent corners it would be necessary to confine the purchase and sale of grain to that in sight and deliverable. This would preclude all foresight and prescience, and forbid any standard of prices, admixture of the grains of various owners, and any selling of grain by grade. Corners become inevitable the moment forecast in grain dealing is made possible.

They are not necessarily preconcerted nor intentional. If a speculator thinks, as Keene did in 1879, that a wet season in England will send wheat up, after harvest, to \$1.35, and he therefore, before harvest, buys 5,000,000 bushels at \$1.10, deliverable in October, and if Chicago speculators think Keene has overestimated the potency of British dampness, they may make a rush to sell him all he wants. He buys to protect the price at which he has already bought. His own purchases run up the price toward the figure at which he aims, and seem to justify his forecast. He buys up to 15,000,000 bushels, all that the Chicago elevators will hold. He buys at \$1.15, and all the way up to \$1.35. He has, therefore, two chances of loss. The small quantity he has purchased—15,000,000 bushels—is a mere bagatelle in the wheat market of the world, the lowest American production being 380,000,000 bushels. If he has mistaken the effect of British dampness, he is gone. The wheat market of the world is too big a thing to be cornered, unless it corners itself by a short supply. October will show whether he acted with prescience or presumption. If with prescience, wheat will not rush in, and the price will stand. If with presumption, it will break. His puny 15,000,000 bushels are powerless against the 800,000,000 bushels which he doesn't hold. His one chance of profit is the sum he squeezes out of those who have "sold short" on his "futures." His two chances of loss are that he must himself sell out much "cash wheat" at a decline, and that prices may never reach the figure at which he has aimed.

Visitors who look at the babel of a Board of Trade only to be bewildered by its din and tumult, and whose personal occupations are concerned with but few persons and small sums, stand appalled at the breakneck rate at which fortunes are lost and won in grain, and at the fluctuations of its apparent values. It matters not whether the article dealt in be the relative values of gold and paper, or grain, cotton, stocks and shares, consols, rentes, bonds, or petroleum; they see in the transactions one element which is present in gambling, viz., sudden and immeasurably vast gains and losses. To see the

utilities of such transactions, requires a profounder insight into the methods and harmonies of trade than they can be expected to have. They denounce the entire practice as gambling, and forthwith organize some form of campaign for its abolition, or at least stand ready at all convenient times to denounce it on ethical grounds.

The only standard by which we can test these contracts is that of utility. Do their benefits outweigh their mischiefs? Are the complaints against them founded in want of information and want of thought? If so, they are beneficent; and if beneficent, then in every ethical analysis they are right. Hostile legislation cannot make them wrong, and is very likely to demonstrate only its own futility. The advantages of future contracts in grain, founded on the system of grading grain in bulk, and issuing warehouse receipts for certain quantities of certain grades and buying and selling these receipts, as compared with the only alternative system of selling grain by sample, or on view, are so great that it is not too much to say that to provision the civilized world, without the aid of such mechanism, would be found hardly less difficult than to transport to market the world's food material without the aid of railways.

The first function of this mechanism is to fix an authoritative price for grain, which is telegraphed every morning to all parts of the world, so that every producer and purchaser gets the quotation with his morning paper, and as often during the day as he wishes. This service imports into the production and transfer of the commodity a certainty, rapidity, and economy which contrast strongly with the expense of finding out values, the confusion, imposition, chicane, overreaching, and fraud incident to the trade in the various goods which can be sold only by sample or present view, without grading, or any of the means of fixing a price which pertain to the trade in grain.

Mr. James McCreery, a leading representative of the New York dry goods trade, testified before the Tariff Commission:

"I have been engaged in the dry goods business thirty-six years; twenty-nine years on my own account, and during that time have imported large quantities of goods. Yet I find it extremely difficult at the present time to tell within ten or fifteen per cent. what is the real value of fine goods. I go to Europe frequently and spend two or three months at a time there purchasing goods, and yet I find it difficult to come any nearer than I have stated to the value of certain goods."

There will often be from ten to thirty per cent. difference in the price of goods of the same value between different dealers in the same city, in clothing, furniture, dry goods, works of art, carriages, books, watches and jewelry—in short, nearly every commodity whose price, or the price of whose immediate raw material, is not fought over and settled between two antagonistic sets of speculators on some Board of Trade. Yet every farmer and manufacturer knows daily, as to grain, exactly what Mr. McCreery cannot discover, by spending three months in Europe, as to dry goods. They know not merely within fifteen per cent., but within one-eighth of one per cent., the exact selling value of every variety of grain or provisions, cotton, petroleum, government bonds or railway shares, in any and all the markets of civilization. They know that millions of dollars are staked in behalf of a rise in price, and an equal number of millions in favor of a fall, and that the actual price quoted is the precise point at which these millions balance. They know that the published quotation is one not fixed by the arbitrary determination of any one dealer, but by the aggregate verdict of them all. The grain baron who knows to a fraction the amount of grain in sight or coming, and who stands ready to buy by the million bushels, and the hostler who invests five dollars in a "bucket shop" on a point, or for luck, are both represented in that quotation, as the attractive forces of the mountain and the pebble are felt in just proportion to their weight in every moment of the earth's diurnal revolution. Hence, throughout the world, all who buy or sell trust to that quotation as their standard, and sell within half of one per cent. of it, allowing for freights and charges.

If there were fifteen per cent. of uncertainty as to the price, the producer would probably lose twelve per cent. of the fifteen. This twelve per cent. on every sale is a probable estimate of the value of the Board of Trade to the farmer. But if grain had to be bought by sample, on personal inspection and delivery, it would require an incalculable increase in the number of grain merchants and in the quantity of capital required, to handle it; also in the space required for storage and in the cost of transfer, a much larger number of buyers and sellers, and a proportionately obstructive tax in the shape of commissions on the production, trade, and consumption, all of which would result in giving the consumer less for his money. The customs of trade are forced upon traders by their economy, and because he who falls in with them does more for less cost than he who refuses to accept them. Hence, every quirk and "wrinkle" in the grain trade is an economy of capital, time or labor.

The intrinsic difficulty of fixing a value upon wheat, cotton, or petroleum, is as great as to do the same for dry goods, clothing or jewelry. In the absence of boards of trade, not only would the margin of doubt and variance as to values be at least fifteen per cent., but a doubt or variance to this extent would check production probably to the extent of forty per cent. Such a service to production places a gulf between the strifes of the Board of Trade and gambling, as wide as that which divides plowing or reaping from faro or three-card monte.

"Futures" and "options" render a second service to commerce in steadying the market as between different dates, which indeed is the logical sequence of their operation in imparting uniformity, throughout the world, to the prices at which grain is sold in different places, and by different persons, at the same time. The ultimate

criterion which determines the validity of prices is the ratio of the supply to the demand. The speculator who can neither be successfully cornered himself, nor beaten on a corner when he forms one against others, is he who judges rightly concerning this ratio. If the normal consumption of wheat for the population of the United States be five bushels per capita per annum, while the surplus which Europe can take at \$1 per bushel is 200,000,000 bushels, an American wheat crop of 550,000,000 bushels presents a surplus of 100,000,000 bushels of supply over demand. Hence, the price must go below \$1; and he who combines or "bulls" to force the price up to \$1.10, or even to hold it at \$1, is simply presumptuous. If he offers to take wheat at those rates for any considerable period of time, the interests of commerce and the rights of consumers require that he shall be "squeezed" and, if he persists, ruined, as a punishment for fighting against natural law. In the case of the Keene wheat deal of 1879, the proof is now clear that he operated against the natural law of prices, by underestimating the capacity of the American supply rather than by overestimating the extent of the English deficiency. By expanding our export of wheat from 152,075,000 bushels in 1878-9 to 176,426,000 bushels in 1879-80, and our export of corn from 79,031,000 bushels to 103,450,000 bushels, with a like increase from India and elsewhere, the deficiency was filled without any serious rise in price. Hence his corner broke. So of the recent McGeogh lard deal. McGeogh assumed with lard at eight cents that it would go to eleven or thirteen. But the sources of supply for lard are almost inexhaustible, and with lard at nine or ten cents, hogs could be transformed into lard faster than he could pay for them. Hence his attempted corner failed, the farmers meanwhile getting good prices, which came wholly out of McGeogh, and the Board of Trade crushing his presumption in the interests of the consumers of lard. There is no more chance in the operation of the law of supply and demand than in gravitation. He who buys or sells, therefore, with an adequate expert knowledge of the conditions which control prices, plays less a game of chance than he who builds his mill by a stream and expects its waters to turn his wheels and grind his grist. The minimum of losses occurs to those who combine the best knowledge of the sources of supply and avenues of demand with the shrewdest sense and judgment as to all the collateral causes which concur to modify, qualify, and retard, this main force. If the rise and fall of prices were determined by blind chance, or by causes as impossible to foresee as the deal in cards or the throw in dice, then to invest with reference to them would be gambling. If the money invested in margins on the purchase of optional grain contracts were of no utility in commerce, except to indicate the owner's faith in a certain course of the market, then the transaction might be classed with bets. But the aggregate funds invested on either side in grain options do, for the time, hold the market to its price, and constitute the investor a part owner, vested or contingent, in the aggregate stock of grain on hand. If he has invested on the "bear" side, then his little \$5 or \$100 lends its feather weight to depress prices and increase the export. If he is on the "bull" side, then he is stimulating the farmers to sell, and is checking the export. Both are part owners, vested or contingent, of the grain on hand. It matters little whether one man goes into the market with \$10,000,000 or 100,000 men go in with \$100 each, or 1,000,000 men with \$10 each, if they invest on the same side of the market and with a like sagacity, a like conformity to the law of prices, and a like pluck and reserve of capital behind them. On what data can we base the assertion that the influence of the smallest sum on either side of the scale is lost in determining the quotation, or in influencing the movement of grain? If on none, then, in an economic sense, this utility distinguishes the investment wholly from any sort of bet.

If the ratio of the supply to the demand be such that wheat must go up, the sooner that is known, and the greater the number of persons to whom it is known, the more gradual will be its rise, and the more evenly will the profits of the rise be diffused among all the holders of grain. But if the rise is factitious, or its grounds fallacious, then the sooner the bubble is pricked the better for all. In the main, the whole capital invested in grain resists false rumors, false conclusions, and false judgments as to prices, and, in the main, the daily losses on the board are the penalties paid for misconceiving the market, an error which, if allowed to run on, tends constantly to more violent fluctuations in prices, and to greater individual losses.

A third service performed by futures is to effect a movement of capital from the manufacturers and consumers, through the grain board, to the shippers and farmers, in advance always of the consumption, often of the transportation, and sometimes even, in advance of the complete production of the grain. In such case, these futures perform the same function that drafts, drawn by a consignor on a consignee against goods shipped and *in transitu*, perform in commerce. They advance the capital of the consumer to the producer on the credit of the shipment. If an Eastern manufacturer desires to know the price at which he can supply himself with wheat from four to six months hence, as a means of imparting firmness and safety to his own operations, he buys a "future" authorizing him to call for grain at the periods desired. The commission merchant, before selling the future, protects himself by a purchase at such a rate as to leave a fair profit. If his purchase is based on contracts with farmers, as it must be, directly or indirectly, if it calls for an article not yet in market, then the margin advanced by the manufacturer passes through the commission merchant to the farmer, and the case is es-

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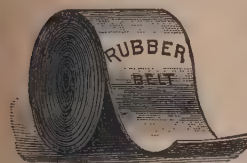
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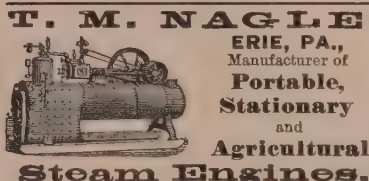
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ERIE, PA.,
Manufacturer of
Portable,
Stationary
and
Agricultural
Steam Engines.
PRINTING of Every Description.
Catalogues a Specialty.
First-Class Work Guaranteed.
Everything New.
Estimates Furnished on Application.
R. Buckingham & Co.,
150 Dearborn St., Chicago,
Room 42.

PAYNE'S 10-Horse Spark-Arresting
Portable Engine has cut 10,000 ft. of Michigan Pine Boards in ten hours, burning slabs from the saw in eight foot lengths.



OUR 10-HORSE we Guarantee to furnish power to saw 8,000 feet of Hemlock boards in ten hours. OUR 15-HORSE will cut 10,000 ft. in same time.

Our Engines are GUARANTEED to furnish a horse-power on 1/4 less fuel and water than any other Engine not fitted with an automatic cut-off. If you want a Stationary or Portable Engine, Boiler, Circular Saw Mill, Shafting or Pulleys, either cast or Medart's Patent Wrought Iron Pulley, send for our ILLUSTRATED CATALOGUE, "No. 34," for Information and Prices.

B. W. PAYNE & SONS,
Corning, N. Y., Box 1448.



Catalogues of Feed Mills, Wind Mills, Pumps, Corn and Cotton Cultivators Free.
Sandwich Enterprise Co., Sandwich, Ill.

M. F. SEELEY

J. S. SEELEY

E. E. HANKS

C. R. DeLAMATYR



SEELEY, SON & CO., Fremont, Neb. Elevator Builders.

We build a "SEELEY" ELEVATOR that stands at the head of Elevators as a self-binder stands at the head of reapers. We furnish

Plans, Specifications and Estimates

Also furnish all kinds of

MACHINERY.

Engines, Cleaners, Corn Shellers, Belts and Buckets, Etc., Etc.

With our experience we can save you on these items more than cost of Plans. Correspond with us and save costly mistakes.

THE WESTERN GRAIN DUMP CO.,

Until Nov. 15 next, will make the following special rate for Right to use the

HINMAN DUMP,

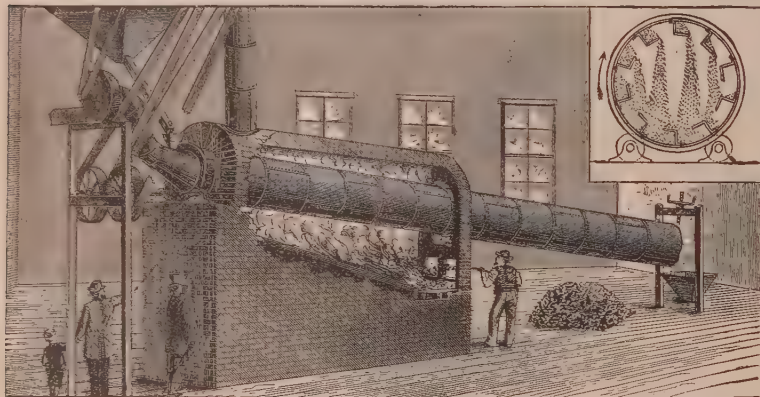
Viz.:—\$20 for first, \$15 for second, \$10 for third, and \$5 for each additional Dump. This rate is made at the earnest request of our patrons through the Northwest. For price of fixtures, and further information, address

WESTERN GRAIN DUMP COMPANY,

Two or three efficient Agents wanted for the Northwest.

Lincoln, Ill.

S. E. WORRELL'S COMBINED DRIER AND COOLER!



FOR DAMP AND MUSTY GRAIN, ETC.

Read the following strong letters of recommendation: (The italics are just as they appear in the Original.

BALTIMORE, MD., February 16, 1883.

S. E. WORRELL, Esq., Hannibal, Mo.:

DEAR SIR:—We are pleased to state that the No. 2 Drier we recently constructed and erected from your plans and drawings, for one of the largest of our elevator firms, is doing admirable service. It is drying and cooling from 50 to 60 bushels of corn per hour—some of it in a *very bad condition*. We have had ample means of comparison, as at the same mills and elevator they have one of the best Steam Driers, and an Oven Shelf Drier or Kila. They find that yours does *more work and better work* than either. Though previously suspicious of the new-comer, they pronounce it the best.

We unhesitatingly recommend it as the most perfect Machine for the purpose, of which we have any knowledge. Very respectfully,

ZELL & DANER, Baltimore Engineering Agency.

OFFICE OF HANNIBAL MILLING CO.,

HANNIBAL, Mo., June 5, 1883.

TO WHOM IT MAY CONCERN:

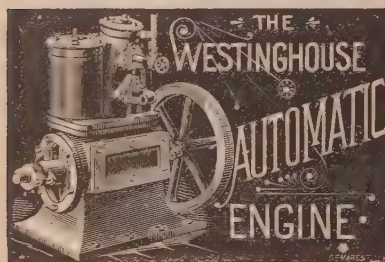
The bearer, Mr. Worrell, is the inventor of a Grain Drier, one of which is situated on lot adjoining our property, and we have had large opportunities of witnessing its work. It thoroughly cleans and dries the grain, and we have had some wheat dried for ourselves, which was quite satisfactory to us. We saw Mr. Worrell dry a lot of damp, musty hominy, and when done it was dry, hard, and the smell of must had disappeared. We consider the machine a valuable one.

Respectfully,

HANNIBAL MILLING CO.

This machine is a practical Drier, in successful operation, and can be constructed in any good machine shop at a good profit. The undersigned would like to correspond with some responsible manufacturer who will take an interest in the U. S. and Canadian Patent, and make and push the sale of the machines, about which I am having numerous inquiries. Will give it my time if required. As this is the season for the sale of Driers, parties should write at once. Machines for sale at a reduction on former price by

S. E. WORRELL, Hannibal, Mo.



Automatic Engines, 20 to 300 Horse Power. Throttling Engines, 4 to 100 Horse Power.

Over 450 Engines and 10,000 Horse Power now in Use.

SEND FOR ILLUSTRATED CIRCULAR AND REFERENCE LIST, and ASK OUR PRICES.

THE WESTINGHOUSE MACHINE COMPANY, PITTSBURGH, PA.

Address, if more convenient, our Branch Offices: 94 Liberty St., New York, 14 South Canal St., Chicago, 401 Elm St., Dallas, Tex.

Books on Steam Power!

We will send any of the following named Books, postage free, on receipt of annexed prices:

Roper—A Catechism of High Pressure, or Non-Condensing Steam Engines: Including the Modeling, Construction and Management of Steam Engines and Boilers, with valuable illustrations. By Sy Stephen Roper, Engineer. Thirteenth edition, revised and enlarged; 12mo., tucks, gilt edge - - \$2.00

Roper—Handbook of Modern Steam Fire-Engines: With illustrations, by Stephen Roper, Engineer. 12mo., tucks, gilt edge - - \$3.50

Roper Use and Abuse of the Steam Boiler. By Stephen Roper, Engineer. Fifth edition, with illustrations. 18mo., tucks, gilt edge - - \$2.00

Roper—Engineer's Handy book....\$3.50
Roper—Questions and Answers for Engineers.....\$3.00

Address

MITCHELL BROS CO.,

184 Dearborn St., Chicago, Ill.

ELEVATOR COMPANIES, CONTRACTORS AND BUILDERS, Attention is Called to the Superior Qualities of ENGINES, BOILERS

—AND—

ELEVATOR MACHINERY

Manufactured by the

PAIGE MFG. COMPANY,

173 & 174 Lake St., Painesville, Ohio.

We Refer to the GRAIN TRADE of the NORTHWEST.

OHIO VALLEY

Boiler Cleaning Company's Compound

Specially adapted for Waters containing Mineral Precipitants.

Sold in Barrel and Half-Barrel Packages. ON APPROBATION, at \$1.00 per gallon. F. O. B. Guaranteed to act in all cases, and to be free from any ingredients injurious to iron. Treatise on Boilers and Steam matters, with references and circulars, free on application. Recipe with Shop Rights, with second order. Address

BEN E. HARRIS, Sec'y,

No. 72 West 3d St., CINCINNATI, OHIO

WHAT WE CLAIM FOR OUR DRIER.

That it is the Drier for large dealers and elevators.

That its capacity is from 1,000 to 50,000 bushels, according to the size built.

That it is the cheapest in the market for its capacity and durability.

That it can be used without heat, but would advise a temperature of 100 degrees Fahr.; more is liable to injure the grain.

That one man can operate it.

That the machine, as drawn in patent, of four feeds on a series, and 30 series high, requiring a space in a building of 6x8 feet, 30 feet high, with the use of two Root's Blowers, one No. 5 for hot air and one No. 1 for cold air, with the hot air 100 degrees, will absorb and carry off 1,000 pounds of water per hour.

That the operator has perfect control of feed, heat and blast, and can dry the grain to any degree desired, and need not take out more water than is necessary to make it grade.

That the feeds are force feeds, and will supply an even and regular stream of grain, from one-eighth to one inch thick, the length of feed.

We also claim that by the use of cold air in finishing grain it can be placed in bulk without injury as it comes from the Drier.

We do not propose to sell the right to use the Drier, but desire to negotiate with one party or firm, in each grain depot where it will pay to use a Drier of large capacity, to form a company to operate in this class of grain, and we will put the right to use our Drier in same for an agreed share of the profits; or we will let it be built on a royalty, but in no case will there be two companies formed in the same place. Any one desiring to see the principle and working of the Drier can get a copy of the patent by sending twenty-five cents to the Patent Office, naming the date of issue (July 24, 1883), and number of patent (282,013), or to J. C. Slaughter, Chestertown, Md.

When small driers are needed, one blower can be used for cold and hot air by using the blower as an exhaust. We are prepared to furnish castings, etc., for driers at short notice.

Address J. C. SLAUGHTER, Chestertown, Md.,

OR

HARRY B. SLAUGHTER, 505 Delaware St., Kansas City, Mo.

HOWE'S Challenge Sample Mail Envelope:

Cheap, Simple,

Neat and

Secure.

Easily Opened,

Filled and

Closed,



And is

Perfectly secure

from

becoming

Opened

in

Transit.

□The loop or fastening A, being secured to the envelope, cannot be lost, bent or broken, and is always ready for use.

Note that Flour Samples are unconditionally admitted to the mail. Read Official Ruling: POSTOFFICE DEPT., WASHINGTON, D. C., February 13, 1882.

Order No. 80.—Order No. 57, of June 2, 1881, page 10, July, 1881, Official Postal Guide, and ruling 383, page 726, January, 1882, Official Postal Guide, and so much of section 223, page 76, Postal Laws and Regulations, 1879, as requires flour to be inclosed in sealed envelope before being put into metal boxes for transmission in the mails, are hereby revoked, and flour is declared not to be inclosed among the articles which, if not properly secured, might damage the other contents of the mails.

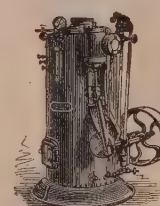
T. O. Howe, Postmaster General. The above ruling is found on page 10, in U. S. Official Postoffice Guide, of March, 1882. Under the above ruling Howe's Sample Envelope will be found the cheapest and most complete Sample Package on the market. Five sizes made—1, 2, 4, 6 and 8 oz. Send for Sample and Price List. Address

Howe Pattern & Mfg. Co.,

445 Bag St., Detroit, Mich. (Please mention this paper.)

BOOKWALTER ENGINE!

Effective, Simple, Durable and Cheap.



Especially adapted for the operation of small mill and Railroad Elevators, Farm Mills, sawing wood and the running of light machinery generally.

OVER 2500 IN USE.

Can be easily operated by any one of ordinary intelligence. Every Engine complete ready to run as soon as received. No Engine built so good and so low in price. Will give the full power claimed.

3½ H. Power, \$240 4½ H. Power, \$280

355 8½ 440

Fine new illustrated catalogue sent on application.

JAMES LEFFEL & CO.,

5 Lagonda Ave., Springfield, Ohio.

F. WILSON'S PATENT BONE MILLS.

The only mills that will grind RAW BONES green or dry. For the Poultryman, Farmer, Gardener and Bone Dust Manufacturer. For Hand and Power. Send for circulars and testimonials. Also manufacturers of Horizontal Steam Engines.

WILSON BROS., Easton, Pa.

DRYING GRAIN

BY HOT AIR!

CUTLER'S PATENT DRYING SHELVES,

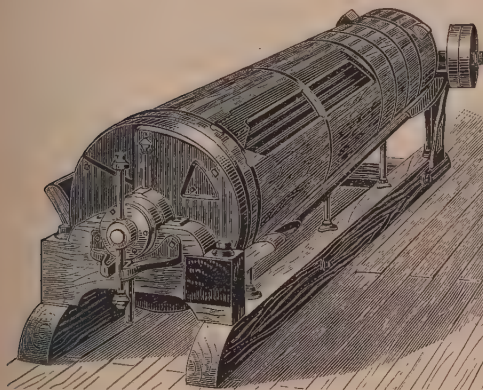
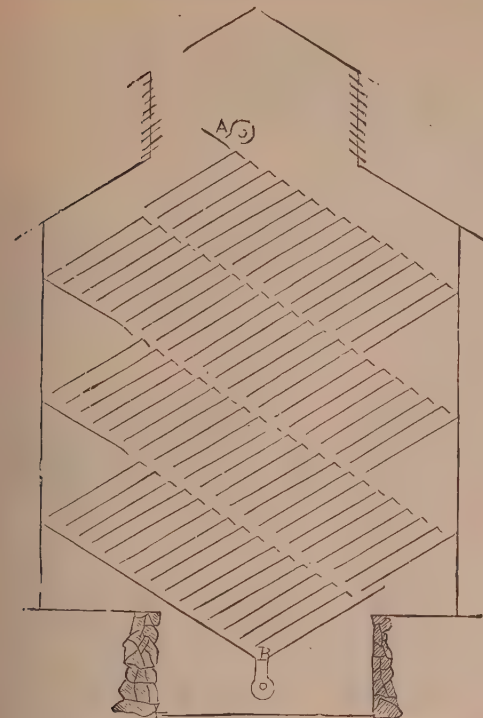
Constructed with wire cloth or perforated metal, are superior to all other appliances for drying by hot air. The grain moves over them by gravity. The grain lays loosely on inclined shelves, the hot air going through the grain where it is only a few inches deep. In all respects it is superior to the wire cloth partition, where grain is pressed hard together in a high perpendicular column with wire cloth on both sides. We furnish Models for these Shelves, with the right to use, for \$75. Any carpenter, with ordinary lumber and a small quantity of perforated iron, can erect a Dryer from this Model.

CUTLER'S STEAM DRYER,

Using super-heated steam at 500 Farenheit, thereby nearly doubling its capacity, is the cheapest Grain Dryer in the world. These Dryers have been in use 14 years, and may be found doing good work in almost every state in the Union.

Send for Circulars.

Cutler & Co.
NORTH WILBRAHAM,
MASS.



STEAM GRAIN DRYER.

A description of operation of W. H. Applegate's new invention for handling and drying new and damaged grain. PATENT ALLOWED AUG. 15, 1883.

This grain dryer can be adapted to a very large business or a small one; it can be built to dry thoroughly from 50 to 2,000 bushels per hour of new corn, wheat, oats, barley or rye, and one-third more of partly dried grain, and put them in as good condition as if they had gone through the sweating process naturally, leaving the color perfectly natural. New corn can be dried in one-half hour and left in as perfect condition as if it had lain in good cribs for six months. The grain passes down through the dryer and through between two wire cloth screens in a thin sheet, of its own weight, very slowly, and is discharged by a discharge-valve, under the control of the man operating it, and it can be set to hold the grain 10, 20 or 30 minutes, or till it is thoroughly dried. New, undried grain is received into the top of dryer as fast as the dried grain is taken out of the bottom, keeping the dryer constantly full at all times. The dryer is cased in a brick wall and heated to 350 deg. by steam pipes, which do not come in contact with the grain. The dampness is taken off at top. This dryer is very simple and easily built, each bushel of grain is spread out in 30 square feet, $\frac{5}{8}$ of an inch thick, and it will be warranted to do all that is here recommended to do or no pay, and will cost in proportion to its size, as it is impossible to do something with nothing, but this dryer will cost one-third less than any other dryer ever built, of same capacity.

I am making arrangements to have these Dryers manufactured in Chicago, and will have four or five good sized Dryers in actual operation on this present crop of new corn in some of the large grain points. They have been tested by wetting old corn and then drying it out again, and worked very satisfactory. The wire cloth of proper size and width is not kept in stock and will have to be manufactured to order, consequently can not have but few in use this fall. For further information, address W. H. APPLGATE, Patentee, Atlantic, Iowa.

THE "SALEM" Elevator Bucket.



Shovel Edge,
SEAMLESS
ROUNDED
CORNERS.
Curved Heel.



W. J. CLARK & CO., Sole Manufacturers,
SALEM, OHIO.

New York Office and Salesroom, No. 9 Cliff St.



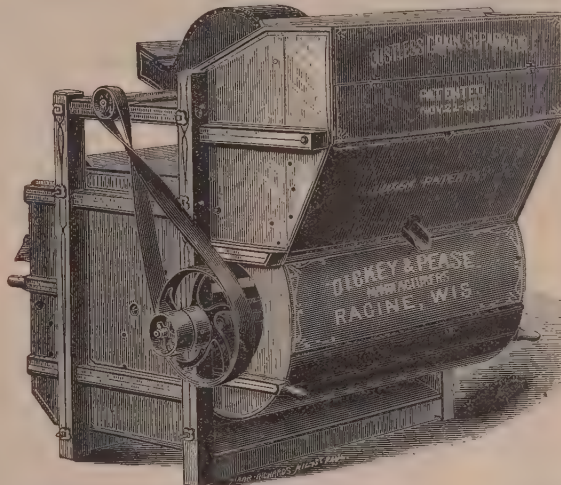
Runs Easy;
STRONG AND
DURABLE,
Empties Clean.

THE ACME DUSTLESS GRAIN SEPARATOR

Made by DICKEY & PEASE,
MANUFACTURERS OF THE

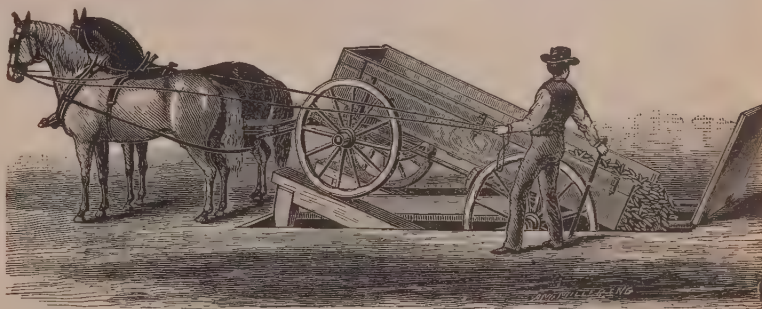
Celebrated "A. P. Dickey" Warehouse and Farm Fanning Mills,

RACINE,
WIS.



This is the only machine in existence that fairly deserves the name of "Dustless Separator." It is the only one that takes the dust and light chaff out of grain as it passes into the "Separator," thus separating the oat from wheat or barley — screening the grain, and grading it, if desired — all at one operation. The dust is conveyed out of doors into a bin by means of a spout attached to the suction fan box. Capacity from 400 to 600 bushels per hour, according to the class of the grain. We guarantee every machine to give satisfaction. Circulars giving full particulars and prices, furnished on application to

DICKEY & PEASE, Manufacturers, - - - RACINE, WISCONSIN.



The above cut is a fair representation of the Rail Dump in common use, on which we are collecting a royalty for past use, and licensing parties to continue to use and also put in New Dumps. Our patents on Rail Dumps fully cover this class of Dumps. Any one using Rail Dumps can readily decide by comparing his Dump with this cut, whether he infringes or not. We also control patents that cover Platform Dumps. Our prices are reasonable in settlements for past infringements, and for licenses to continue to use the Dumps. Prices given on application. See notice below.

NOTICE.

To Parties Using Grain Dumps.

Notice is hereby given that we have been retained to prosecute infringers of the following Letters Patent on Grain Dumps:

One granted to Noah Swickard, Oct. 13, 1868, No. 88,005. Reissued Dec. 20, 1870, No. 4,212, for Improvement in Wagon and Car Unloading Apparatus.

One granted to Samuel C. Kenaga, Oct. 20, 1868, No. 83,288, for Improved Dumping Platform.

One granted to Benjamin Walton, Nov. 31, 1869, No. 97,253, for Improved Dumping Machine, and

One granted to Wm. M. Hall, Sept. 6, 1870, No. 107,040, for improvement in Grain Dumps, and all persons or parties manufacturing or using Grain Dumps which infringe on any of the above described Patents must make settlement for all past infringements, and take license in accordance with the usual terms, if they desire to continue to manufacture or use the same, or legal steps will be taken to enforce said Patents against all infringers.

Applications for licenses for using said patented improvements, and for settlement for past infringements should be addressed to

J. M. HARPER, New Opera House Building, Peoria, Ill.

BURNET & BURNET,

Complainant's Counsel, Cincinnati, Ohio.

Kerr Murray Mfg. Co.,

Ft. Wayne, Ind.

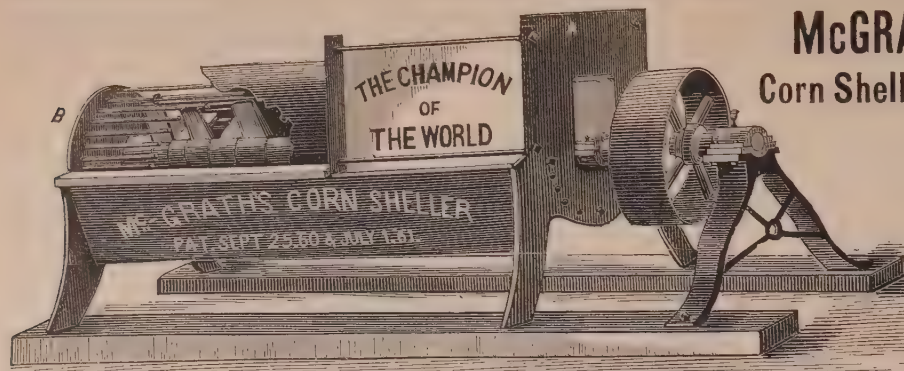
MANUFACTURERS OF

Grain Elevator and Mill Machinery,

Wrought Iron Tanks and Cast Boats Complete. Steam Engines and Boilers, Shafting, Pulleys, Etc.

IMPROVED STEAM SHOVEL MACHINERY.

ESTIMATES FURNISHED ON APPLICATION.



McGRATH & CO.'S Corn Sheller and Corn Cleaner

WORKS.

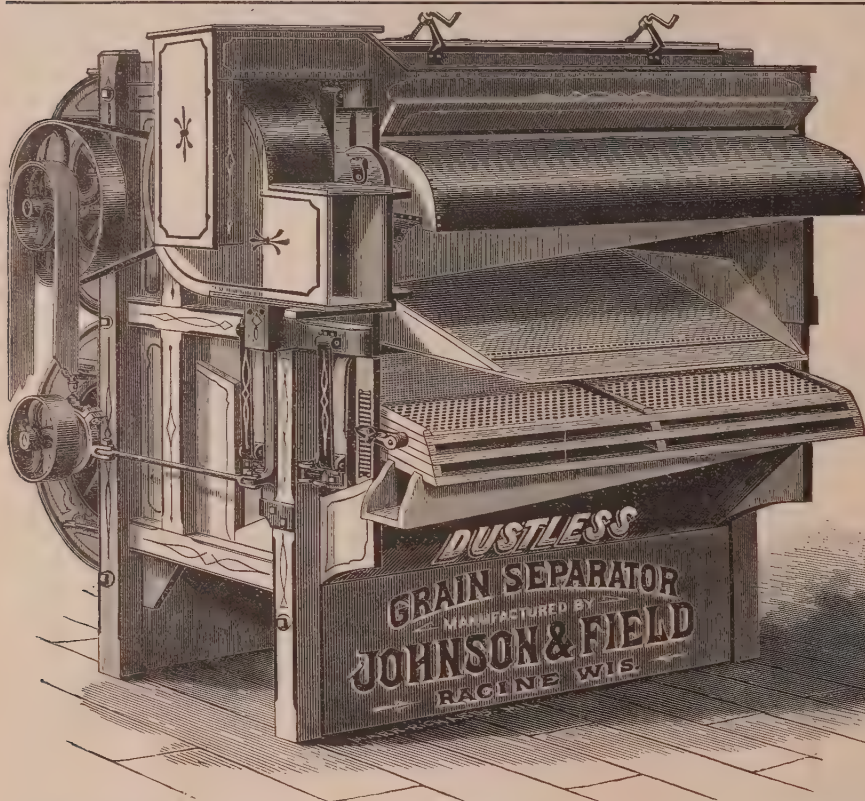
Manufacturers of
McGrath's Hornet

AND
McGrath's Twin Corn
Sheller and Cleaner.
McGrath's "Champion
of the World."
McGrath's Pat. Grain
Dump. Also Shafting,
Pulleys, Hangers and
Warehouse Machinery
of every description.

OFFICE AND WORKS,
135 & 138 S. Third St.,
LAFAYETTE, IND.

THE California Scourer and Separator COMBINED FOR ELEVATORS.

FOX LAKE, WIS., Jan. 12, 1882.
M. DEAL & Co., Manufacturers California Grain
Cleaning Machinery, Bucyrus, Ohio:
Your California Scourer and Separator pleases
us. It is first-class. It does its work well. It is
the best machine to Scour and Clean Barley
we have ever seen. Our engine is 10-horse power
and will easily run two machines like it, Fanning
Mill and Elevator. We would recommend it for
Warehouse purposes ahead of all other machines.
MYERS & BICKELLAUPT.
Send for Illustrated Catalogue and Price
List. IT WILL PAY YOU!



JOHNSON & FIELD'S DUSTLESS GRAIN SEPARATORS

Our aim has been to construct a machine that
would do superior work, clean fast, run easy, and
to remove all dust and foul stuff without wasting
any grain or seed; also in making it strong and
durable in every respect.

The accompanying cut shows our Dustless Sep-
arator. For these machines we make the follow-
ing claims:

FIRST. Their Superiority in Separation: They have two distinct
combinations of sieves and screens to which blast is applied, which performs the
same work in one operation that is usually done in running through twice.

SECOND. Their Light Running: They can be run by horse power as
well as by steam. One horse power can run them besides elevating the grain.

THIRD. Their Large Cleaning Capacity: In constructing these ma-
chines the capacity has been greatly increased, so that they will clean much faster
than any single machine of equal size.

FOURTH. The Effectiveness of Removing Dust and Chaff: By
combining the Dustless Fan with these machines all dust and chaff can be taken
out and carried through spouts to outside of building or into a dust-box, thereby ob-
viating the great objection and nuisance of having the house filled with dust, and
the discomfort and injurious effect on men working therein.

FIFTH. Their Great Strength and Durability: In making these
machines it has been one of the chief objects to make them as strong and durable
as can be done by skilled labor and the best of materials, the frame work being very
heavy, made out of thoroughly seasoned white ash. The irons are extra heavy, and
all fastened on with bolts, with shafts of one and one-half inch in diameter, Bab-
bitted-Boxes, large, solid Eccentrics, with heavy Connecting Rods; and Brass Oil
Cups on all Bearings. Also the Hopper, Feed and Grain Boards are covered with
Heavy Sheet Iron, preventing the grain from wearing through same.

Although these machines have been only a
short time in the market, they have met with uni-
versal approval, and the increased demands speak
well for their merits. For Circulars, Prices, etc.,
address

JOHNSON & FIELD, Racine, Wis.

CHAS. KAESTNER & CO.,

Established 1863.

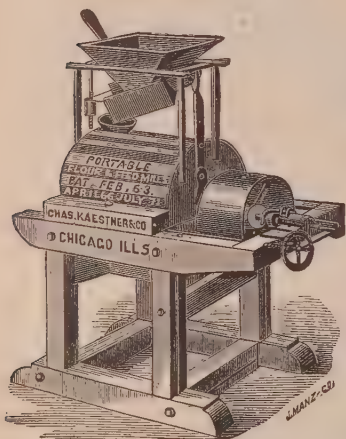
General Machinery.

SHAFTING,
PULLEYS,
HANGERS and
GEARING
A SPECIALTY.

Over 4,500 of our Mills in Use.
Sold under a full guarantee to give entire
satisfaction, or money refunded.
Parties erecting Elevators will consult
their own interests by sending for our il-
lustrated Catalogue and references.

— OFFICE AND WORKS, —

303 to 311 So. Canal St., } CHICAGO.
74 to 98 Harrison St., }



HERSEY'S PATENT STEAM GRAIN DRYER,

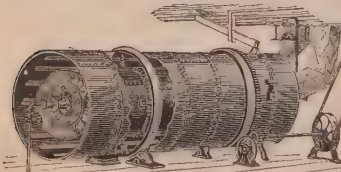
The Most Successful Dryer in Use.

Over 200 in Operation: This Dryer
has been in Operation 12 Years:

Will Dry Grains of every description, and in every
condition, whether slightly damp or very wet, cheap-
er and in larger quantities than any other System.
Does not injure the grain, and can be used as a
Cooler and Duster, also as a Heater for Flour Mills.
Is the only Dryer in the country upon Sugar, is ex-
tensively used for Drying Salt, Grape Sugar, Sugar
Feed, Corn Refuse, Fertilizer, etc. Takes but very
little power and steam, no labor, simple, no repairs, and permitted by insurance com-
panies to be operated without additional insurance. Can be arranged for using direct, exhaust or super
heated steam. We make them from four feet to six feet diameter; eighteen feet to thirty-five feet long

Prices and Circulars upon Application:

HERSEY BROTHERS, - - - SOUTH BOSTON, MASS.



TO THE GRAIN DEALERS OF THE UNITED STATES:

I am informed that one JAMES M. HARPER, of Peoria, Illinois, formerly of El Paso, Ill., is re-
presenting that he has the control of all the Grain Dump patents issued, and is endeavoring to collect
royalty of all men using what is known as the rail dump, which consists of a pivoted track for dumping
grain.

This is to notify you that I have the first pivot track or rail dump patent issued by the United States,
and that a suit is now pending in the United States Court at Indianapolis, entitled "Swickard *et al.* vs.
McGrath *et al.*," and also a suit is pending in the United States Court at Chicago, Ill., entitled "Swick-
ard *et al.* vs. Risser *et al.*," which suits will fully settle the question as to who has the true patent to
pivot track or rail dumps.

Mr. Harper controls no pivot track or rail dump patent. His Swickard patent describes itself to be
a platform dump. The cut he publishes in the *Elevator and Grain Trade*, does not represent his
dump, but represents ours. Why does he not publish a picture of his own dump? He boasts of his
suit against me. "He laughs best who laughs last." Let him wait until the court decides. The court
has not granted even a temporary injunction against me. He seems to think because his patent is the
oldest that that settles it. Unfortunately for him the courts do not so hold.

If I win my case, as my attorneys are confident I will, then all these royalties on the pivot track dump
are due to me. I do not publish this as a boast or a threat, but only to say that the only safe way for
grain men to do, is to await the trial of the above suits, which will be in a short time now, and thereby
avoid double payment.

He further threatens grain men by saying that "suits will be vigorously prosecuted." Why then has
he permitted his suit at Chicago against the Risser to drag, and abandon, without settlement, a field
of several hundred dumps, and go to new fields with threats of prosecution. If he has faith in his
claim, let him establish it in the Risser case, and that will obviate a campaign on the part of traveling
men of boasts and threats.

R. M. McGRATH,

Proprietor of Patent 115,759, dated from June 6, 1871.

For further Particulars Address

HON. A. J. BELL,

ATTORNEY AT LAW,

Grand Opera House, - - - Peoria, Ill.

REMOVAL!

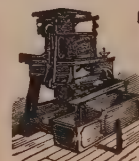
PHILIP BUEHNER

DEALER IN

ENGINES AND BOILERS,

HAS REMOVED TO

Fourth and Wacouta Streets,
ST. PAUL, MINN.



"MOORE COUNTY GRIT"

Corn-Mills and Millstones,
ALL SIZES.

THE BEST IN THE WORLD
FOR TABLE MEAL!

Samples of Meal Sent on Application.
NORTH CAROLINA MILLSTONE CO.
Chambersburg, Pa.
(Please Mention this Paper.)

A GREAT SAVING IN THE RUNNING OF GRAIN ELEVATORS! THE LOTZ PATENT GRAIN SHOVELING MACHINE, FOR UNLOADING CARS.

PAT. NOVEMBER 23, 1880, AND DECEMBER 14, 1880.

This machine works automatic. The hoist rope spool of each machine is driven from a line shafting by paper friction wheels, and all the mechanical movements in the machine are such that they will not wear, nor get out of order. A GREAT SAVING IN REPAIRS OF SCOOPS, in the WEARING OF ROPES, in LUBRICATING MATERIAL, and in REPAIRS ON MACHINE. The resistance on taking the scoop back into the car is much less than with other automatic machines. The length of pull of hoist rope can be instantly adjusted. The more economical operation of this machine as compared with others will pay its first cost in five years.

Eleven double machines of above construction have been set up and are in practical operation in Rock Island Elevator A, near Twelfth Street Bridge, Chicago, Ill.

Office of FLINT, ODELL & CO., 151 Monroe St.,

CHICAGO, May 4, 1883.

MR. WM. H. LOTZ, CHICAGO:

DEAR SIR—We have been using your Patent Shovel Machines in Rock Island Elevator A for several months, and are well satisfied with them. We estimate a saving of 50 per cent. on shovels, 75 per cent. on rope, and 60 per cent. on oil over all the shovels previously used by us. Yours truly,

FLINT, ODELL & CO.

For further information address

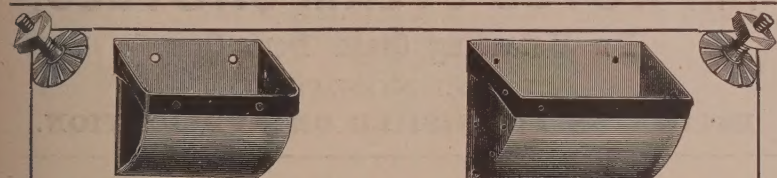
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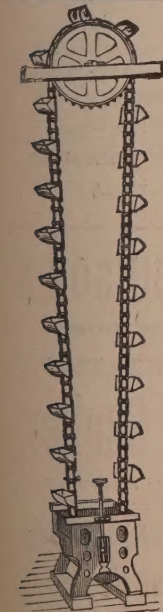
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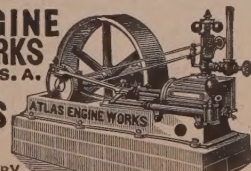


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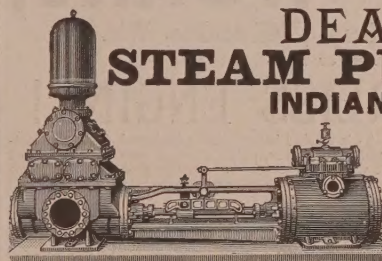
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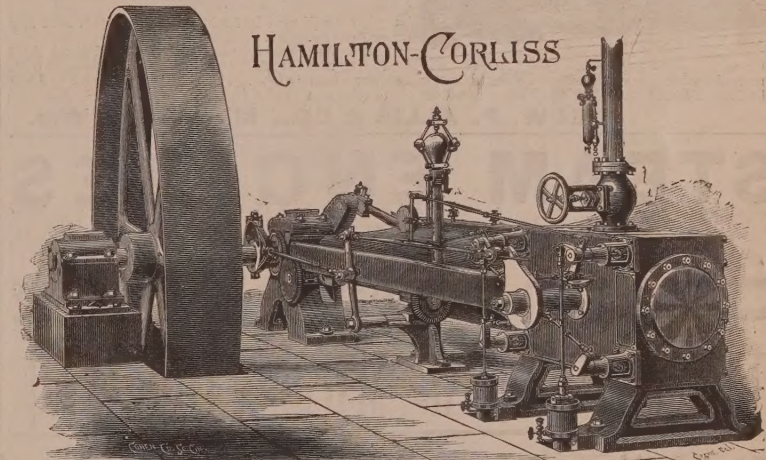
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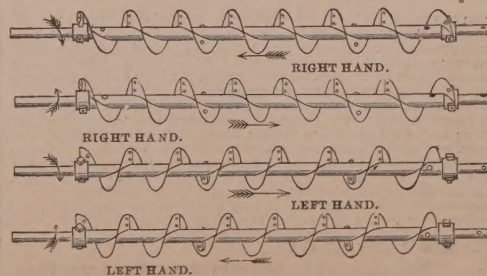
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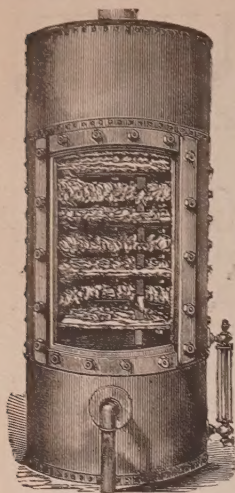
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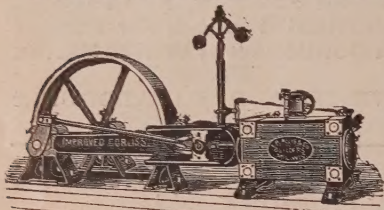
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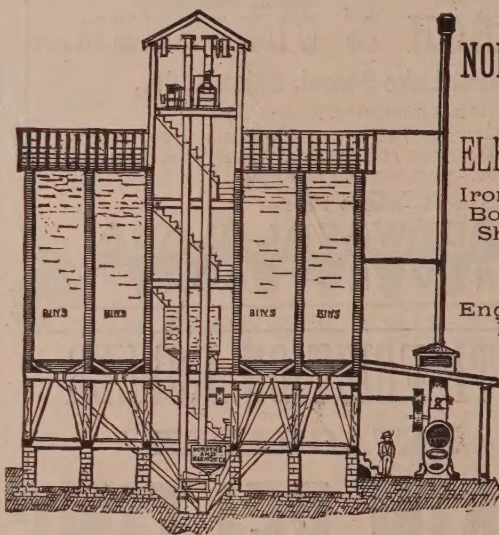
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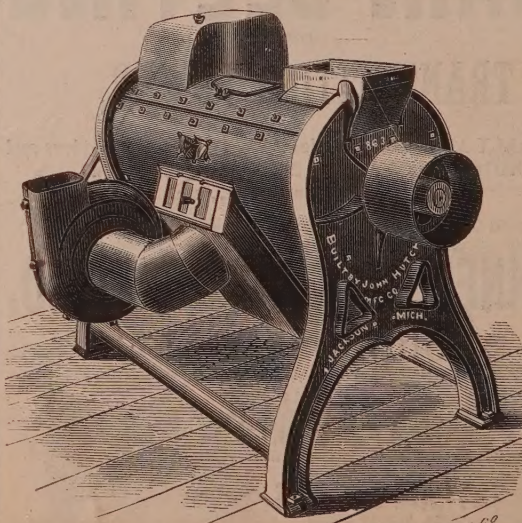
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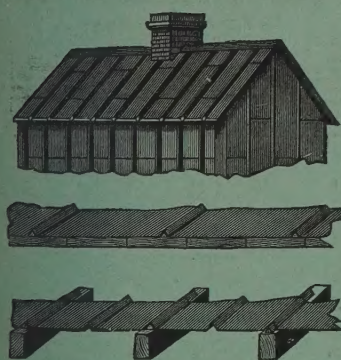
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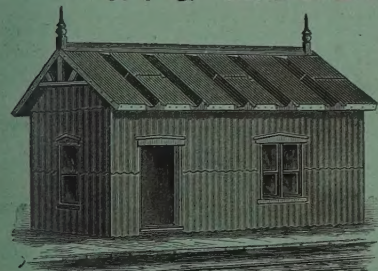
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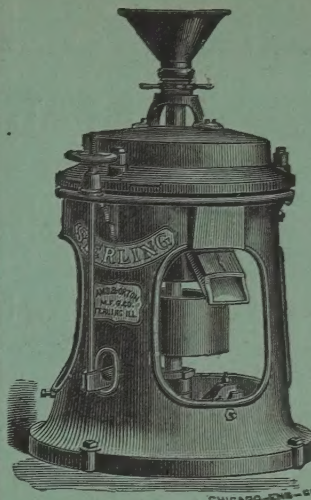
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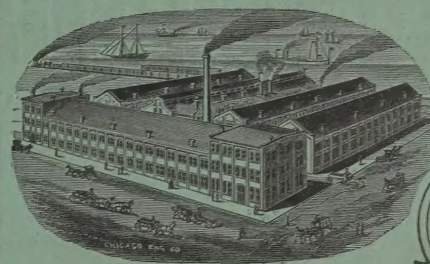
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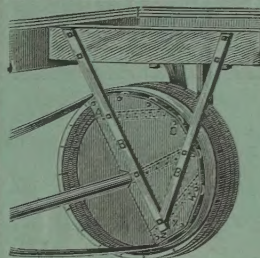
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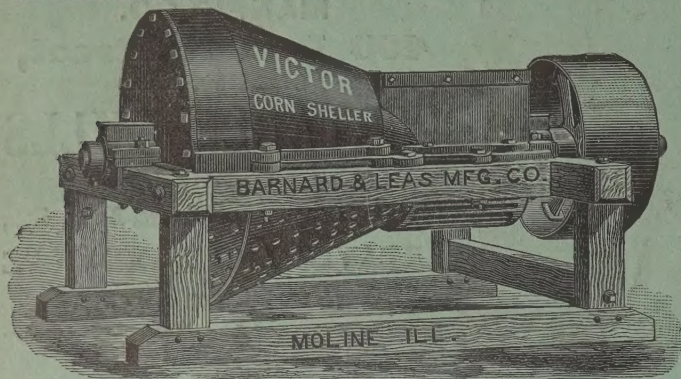
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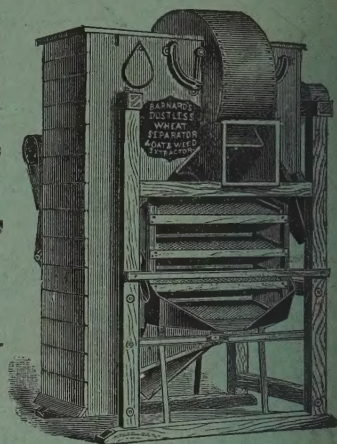
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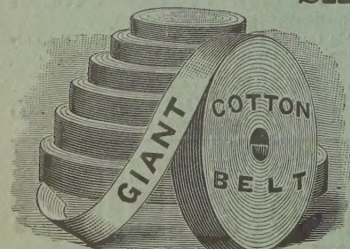
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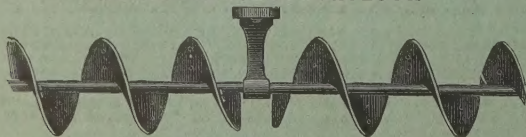
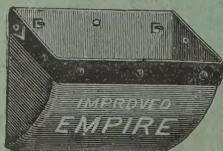
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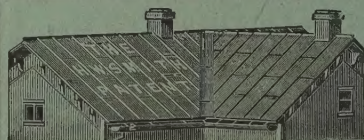
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